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BUSINESS WEEK

START
OF WAR
1939



Manpower shortages make every day Labor Day, as America faces its biggest crisis yet in war production.

Week
BUSINESS
WEEK
INDEX

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WARNER & SWASEY

opens a second front on Carnegie Avenue



THE turret lathe war is won. While turret lathes will still be made, the frantic need for their extreme production has been met.

Without waiting for any Pearl Harbor, Warner & Swasey declared war in 1939. Three plant additions were built and equipped with our own money. We then rented buildings, and later the government built and equipped a building. Warner & Swasey output was increased to *seven times* normal. You see, without turret lathes, *no* war production would have been possible.

Now, the thousands of trained Warner & Swasey workers are opening a second front in these expanded plants . . . badly needed parts for airplanes, ships and guns are now coming off the lines where turret lathe production taught precision. Long ago we and our workers hurled everything we've got into this fight. It will stay there until victory. Some millions of fine young Americans in uniform are a good precedent for operating that way.



YOU CAN TURN IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY



Photo, Courtesy Goarich & Co.

They blacked out the sun with a Koroseal sandwich

A typical example of B. F. Goarich product development

AERIAL photographs of changing enemy positions are used in this war to anticipate his next move. But there isn't time to take films back to a base to be developed.

A manufacturer of photographic equipment had an idea for a portable darkroom that could be flown to the front and set up behind the lines. Films could be dropped by parachute and prints could be finished in five minutes or less. But the tent had to be made absolutely dark without the faintest ray of light. Some tent material had to be found that wouldn't

crack and let in pinholes of light. It had to be waterproof, proof against photographic chemicals, able to stand the hard use of field service.

Someone suggested Koroseal, the flexible B. F. Goodrich material used just before the war as a waterproof coating on shower curtains, raincoats and many other things. It stands chemicals, sunlight and hard usage. Could it be made light-tight? B. F. Goodrich men and the manufacturer worked out a tent of alternate layers of Koroseal and lightweight airplane fabric bonded together. The outer layer of Koroseal was green for camou-

flage, the inner layers black to keep out all light. Because Koroseal won't harden and crack, the tent can be rolled into a small bundle as often as necessary.

While Koroseal still can't be sold for home use, it's available for many essential industrial uses. Write us if you have any problem for which a durable covering, coating or solid flexible material might give the answer. *The B. F. Goodrich Co., Koroseal Division, Akron, Ohio.*

B. F. Goodrich

RUBBER and SYNTHETIC products

Koroseal Reg. T. M.

"Help stamp out the black market"



There's tremendous power in those little coupons in your War Ration Books. They're the average civilian's chief defense against a savage, criminal menace . . . the Black Markets.

Ration Stamps represent a simple means of distributing necessities equally to all Americans. And because most Americans have a high sense of fair play, Ration Stamps are doing a great job of helping to stamp out the chiselers who creep up on the fringes of society.

Here at SKF, we recognize the importance of fighting the Black Markets, and know that our Ration Books are great weapons in the fight. That, of course, is on the Home Front. For the War Front, we're turning out increasing quantities of ball and roller bearings which help carry retribution to the Axis War Machine.



SKF INDUSTRIES, INC., PHILA., PA.

BUSINESS WEEK

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WASHINGTON BULLETIN

WHAT THE WASHINGTON NEWS MEANS TO MANAGEMENT

One Big Bottleneck

Labor supply will remain a bottleneck until the Army starts demobilizing. With or without a national draft law, our war production must now accommodate itself to that single overbearing fact.

A labor draft will not provide extra housing for already over-populated Seattle where living quarters limit labor supply. It will not add another bus route between Buffalo and Depew, N. Y., where transportation troubles explain a high absence rate in heavy armament plants. It will not open new laundries in Detroit where women lay off or refuse to take jobs because the family wash must be done by hand. It will not make experienced copper miners grow out of Montana sagebrush.

What it can do is make a barb-sharp point of the fact that manpower is our most urgent problem and put authority in the hands of those who seek to redistribute our labor force (page 108).

Two Courses on Civilian Goods

Only real efficiency can be got from labor, however, by providing the housing, transportation, and other services that will keep workers, particularly women, on war jobs.

At this point we face a choice: Sacrifice everything else in the hope of meeting each month's armament quotas, or take one step back in order to take two steps forward.

The first is the only practicable course if the curtain is rung down on the European theater in nine months or less. If plans remain keyed to manning and supplying a global war into 1945, count on a pause soon for treating the production ailment with a hair-of-the-dog prescription. That will call for diverting an increased amount of materials, plant, and labor to servicing war manpower by expanding civilian goods and services.

Still the Old Methods

In the meantime, emergent labor-supply situations will be dealt with on the same stopgap basis as the disappointing aircraft and shipbuilding programs on the Pacific Coast (page 90). Also, all the old methods will be used more intensively to eliminate frictions and deterrents which keep our present inadequate number of man-days in industry from being fully productive.

WPB will keep crusading for incentive wages.

The National War Labor Board, cynical about any other initiative except the pay envelope, will become more liberal about allowing "reclassifications" and "merit increases" even while it holds firmly to the Little Steel formula.

The Army and Navy will run more and more morale-building shows in war plants, hopeful that the sight of a battered tank brought back from Sicily or a pep talk from a sailor who lived on a raft will get an added stint of effort out of an arc welder.

Another Chance for Civilians

WPB and the Office of Civilian Requirements have found one channel through which the trickle of civilian durable goods can be increased. Steel Recovery Corp. is advertising that it has 400,000 tons of steel recovered from excess inventories available mostly in semifabricated shapes.

WPB will lift restrictions on frozen inventories of work-in-process whenever these can be combined with a little of Steel Recovery's stocks to boost production quotas substantially. This system recently lifted third-quarter production quotas for baby carriages; it will be used soon to increase output of office furniture and systems. Some office equipment manufacturers are counting on it as a chance to get away from substitute materials.

Lewis Doesn't Give Up

As of this week—and the report must be dated, for John L. Lewis is one of the shiftiest in-fighters in the business—miners' union strategy does not call for a walkout in the coal fields.

The adverse National War Labor Board decision on portal-to-portal pay (BW—Aug. 28 '43, p. 14) has evoked violent denunciations of the Administration in Lewis' house organ, a charge from mine operators that miners are

slowing down, taking extra days off in a concerted pressure drive, and the filing of a test suit in Alabama asking back pay for travel time under the Wage-Hour Act.

Lewis hasn't quit. He is still determined to bull his way through to something approximating the \$2-a-day general wage increase which he set last April. All the interim appeasement—time-and-a-half for Saturday work, overtime premiums for the eighth hour in any one day, extra vacation bonuses, company pay for miners' equipment—has been accepted without a "thank you" and has not turned him from his objective.

The coal situation will stay in chronic crisis until either Lewis gives up or the government gives him what he's after.

For Postwar Working Capital

Extension of government-guaranteed "V" loans to cover manufacturers' postwar working capital needs takes some of the heat off procurement officers who are trying to write a uniform termination clause for Army and Navy contracts. Without V loans or something similar to keep contractors afloat while settlements are threshed out, the government would have been forced into making larger immediate partial payments than it considered safe.

Under the new system, contractors can arrange now with commercial banks for a guaranteed loan to provide working capital when their government work stops. Size of the loan they can get will depend on how much money they will have tied up in inventories and work-in-process if their contracts are canceled. Until he actually uses the credit, a manufacturer will have to pay a small commitment fee, but once he draws on it, the government will carry the interest. Security for the advance will be the termination settlement on canceled contracts.

Procurement agencies still plan to adopt a policy of partial advance payments on termination settlements but think most manufacturers will get more cash and get it quicker by using the V-loan system.

Relief for Pensioners

Part of the 1944 campaign platforms of both parties will be to temper the high cost of living to pensioners, soldiers' dependents, and other persons living on small fixed incomes. President

Other Washington reports in this issue include: OPA's Fear of Inflation Ebbs, page 14; Spud Compromise, 24; Push for Penicillin, 28; Fast One by CCC?, 32; Hunters Set Back, 38; No Turkey at All, 40; Kitchen Gestapo, 75; Labor Areas Shift, 92; Rates under Fire, 106. Washington trends of importance to management are also discussed weekly in *The Outlook* and other regular departments of *Business Week*.

THE TOUCH OF TOMORROW IN THE PLANES OF TODAY



Heroes' Alma Mater

Our airmen have proved themselves masters of anything that flies.

When you hear of their exploits you wonder how such skill, such devastating dexterity could be acquired in a few brief months. Surely, these men must have been "born to the blue."

Yet the plain fact is that scarcely one in a thousand ever flew a plane before the war. Each and every one had to be *trained*—thoroughly and quickly.

In their training, the Fairchild PT-19 Primary Trainer with "fighter" characteristics is their flying school.

This staunch little ship is ideal for the rigorous acrobatic program prescribed in primary training. In the words of a veteran pilot-teacher now at an Army flying school: "It is unnecessary to caution a student or to warn him about excessive speeds in pull-outs or dangerous positions while he is flying a PT-19. We simply go

ahead and teach him to do every maneuver in the book: slow rolls, snap rolls, Immelmans, loops, half rolls, inverted coordination exercises and turns, vertical reversements, spins, and combinations of these. The PT-19 can certainly 'take it.' That is the best confidence builder ever invented."

From behind soda fountain and plow, office desk and ivied walls, after a short intensive training in the PT-19, the most daring and expert flyers the world has known have emerged. After six hours training in a PT-19 it is not unusual to solo Army students who have never flown before.

As a constant check on the performance of PT-19's, on the American mainland and abroad, the reports of a corps of specialists written in the field, enable our engineers and designers back home to keep that "touch of tomorrow in the planes of today."

BACK THE ATTACK WITH WAR BONDS



ENGINE AND AIRPLANE CORPORATION
30 ROCKEFELLER PLAZA, NEW YORK

Ranger Aircraft Engines Division, Farmingdale, L. I.

Fairchild Aircraft Division, Hagerstown, Md. . . . Burlington, N. C.

Duramold Division, New York, N. Y.

Color Motion Picture—"FAIRCHILD PT-19 TRAINER"—16 mm. sound—25 minutes—Write Dept. D for information

Roosevelt now refers to these low-income people as "the 20,000,000" rather than as "one-third of a nation," and a recent elaborate Office of War Information press release documented their plight.

Food Stamps the Solution?

Most concrete proposal for helping the 20,000,000 in the fixed income group has been revival of the food stamp plan by which stamp holders get food free or at reduced prices through government subsidy (Report to Executives, BW-Feb. 1 '41, p29). Republicans, led by Sen. George Aiken of Vermont, opposed this idea at the end of the last session, but it's by no means certain that the White House won't steal it back.

The Food Distribution Administration, seeing which way the wind is blowing, has done some work on what it would cost to bring the plan back, how it could be administered. FDA thinks it could be made both cheaper and simpler than it was before.

OEI Reorganized

Leo T. Crowley's reorganization of the Office of Economic Warfare has just about obliterated all traces of Vice-President Henry Wallace and his old Board of Economic Warfare. Most of the top men during the Wallace regime have quit, either voluntarily or in response to Crowley's request. Those who still hold their jobs are prepared to go any time.

This week Crowley accepted resignations from Morris Rosenthal, head of the Office of Imports, and Monroe Oppenheimer, general counsel, both old-timers in BEW. Simultaneously, he installed his own reorganization crew, headed by Lauchlin Currie, on loan from his job as administrative assistant to Roosevelt.

Although the BEW old guard has cleared out, there hasn't been a corresponding shakeup in the Reconstruction Finance Corp. subsidiaries transferred to Crowley. Wallace men say that reorganization will be a "strong compromise in favor of Jesse Jones"—leaving RFC officials in the saddle.

To Fight the Black Market

OPA will probably substitute serially numbered tickets for gasoline ration coupons if it can get money for the project. Serial numbers would make it easier for enforcement officials to check counterfeiting and would also stop another leak—the coupons that local

boards tear out (and are supposed to destroy) when they issue a gas allotment of less than full-book value.

Another idea for combating such leaks is central issuing offices for gas coupons in each area, better protected against theft than most local boards' headquarters.

Wheat Will Be Tight

If lend-lease or foreign relief requirements for wheat or wheat products reach major proportions, they will have to be satisfied by Canada. On the basis of the estimated use of wheat for domestic food, feed, and alcohol programs for the crop year ending June 30, 1944, the U. S. will end up with only a 250-million-bushel carryover.

Supplies of wheat for the crop year 1943-44 are expected to be second only to the record year of 1942-43, but the June, 1944, carryover is regarded as dangerously low when compared with the 618-million-bushel carryover on June 30 of this year, or the 623 million on June 30, 1942.

With crop and carryover for the 1943-

44 season estimated at 1,450,000,000 bushels, use of wheat is estimated at 1,200,000,000-odd bushels divided as follows: food 535 million bushels, seed 80 million, feed 425 million, alcohol 125 million, and exports and foreign relief shipments 35 million. While food use of wheat is somewhat higher than normal, the real jump in wheat disappearance results from feed and alcohol requirements. The latter may be somewhat reduced by a shift to molasses, but the feed situation is so tight that it may take more than 425 million bushels of wheat to support the nation's livestock and dairy population.

Another Job for Ickes

The Petroleum Reserves Corp. has come to rest in the office of Secretary Harold L. Ickes. Secrecy cloaks its operations, but its object is to wangle more foreign oil for war needs.

PRC began life two months ago as a Reconstruction Finance Corp. satellite (BW-Jul. 10 '43, p14). It was shifted to the Office of Economic Warfare under Leo T. Crowley when President Roose-

Filling Thurman Arnold's Shoes

Antitrust prosecutions will be picking up in coming months. There won't be a crusade, but the Justice Dept. no longer is meeting the resistance that it once did from the Army and Navy which claimed antitrust litigation would interfere with war production. Wendell Berge, former Assistant Attorney General Thurman Arnold's No. 1 man, has been shifted back into the Antitrust Division to carry the ball. Tom C. Clark, who has headed the Antitrust Division since spring, has taken over the Criminal Division from Berge.

So that Berge can concentrate on vigorous antitrust law enforcement, Attorney General Francis Biddle has stripped the Antitrust Division of the War Frauds Unit and other wartime chores which have claimed Clark's time and will now be handled by him in the Criminal Division.

Berge doesn't have the spit and vinegar of his old chief, but he's in there slugging. Several important cases which have been hanging fire on the antitrust docket since before the war will be pushed. Berge also has his eye on practices sanctioned in wartime, such as allocation of production and fixing of uniform prices, which are ordinarily offensive to the



Wendell Berge

antitrust laws. He will be ready to lay by the heels any industries that continue such practices after the official sanction obtained for them by WPB and other war agencies has been withdrawn. Present machinery for clearance of such sanctions is under Berge's jurisdiction.

WHO ARE THE MEN
IN YOUR PLANT
RESPONSIBLE ONLY
TO THE PRESIDENT?



Among these men, certainly, is your Safety Director. For this important specialist is both economist and humanitarian. For workers he saves earning power. For management he saves money. He conserves eyes, limbs, lives. And countless man-hours of production.

Backing up the Safety Director is Willson—and Willson's more than 300 styles in eye protective and respiratory devices.

Do you know the Willson safety service representative in your area? He is a good man for you and your men to know.



The Safety Effort
is a vital part
of the War Effort

INDUSTRIAL GOGGLES • GAS MASKS
HELMETS • RESPIRATORS

WILLSON
DOUBLE
PRODUCTS INCORPORATED
READING, PA. U.S.A.

WASHINGTON BULLETIN (Continued)

vett liquidated the Jones-Wallace feud. Now Ickes has been made president on his own nomination. His Petroleum Administration for War has long had a foreign division which has to do with allocating materials for U. S. companies operating in foreign countries and with coordinating their operations. Now he has a company which, financed by RFC, has unlimited authority to buy and sell oil, drill wells, build pipelines and refineries, even buy stock in existing companies in foreign countries.

Small Business Hounds Bowles

Small business men have the Senate's Small Business Committee hot on the scent of recent OPA appointments. They protest that, in obeying Congress' edict to get rid of the professors, OPA's new general manager, Chester Bowles, has packed the agency with big business men.

Three top OPA appointments so far have been James F. Brownlee (Frankfort Distilleries, General Foods), Reagan P. Connally (Interstate Department Stores), and Jean F. Carroll (Kroger).

The little fellows are equally angered by appointments further down the line—Jack Gisman of A. & P. to handle grocery product pricing, F. Atherton Bean of International Milling Co. to handle grain. They are afraid a J. C. Penney executive will get the textile price post and want to substitute their own candidate, W. R. Thomas of Jamestown, Pa.

OPA officials say that Bowles knows what he's up against, that he has held up several appointments while trying to find small business representatives with ability.

WPB Closes a Loophole

Rules for granting materials under WPB maintenance and repair order forms will be more strictly enforced.

That's because WPB is finding out, as the Internal Revenue Bureau learned long ago, that many new industrial installations are made in the name of "maintenance, repair, and operations."

All of WPB's industry divisions make strict distinctions between actual repair and maintenance of a given bit of equipment on the one hand and equipment purchases made with an eye to postwar use on the other. Since the former are deductible from income taxes as a cost of doing business while the latter, as a capital investment, are not deductible, Internal Revenue is also interested. WPB men are consulting more frequently with tax officials on this point.

Pattern for Coal Rations

If John L. Lewis again leads his miners out on strike, bituminous coal will be rationed. Stockpiles, which carried the country through the two strikes last spring, aren't large enough now to keep industrial users going if production stops.

If rationing becomes unavoidable, it probably will follow the general pattern set by restrictions imposed on anthracite deliveries this week. Producers and wholesalers may ship to retailers only 90% of their 1942-43 fuel year requirements. For the present, retailers are to let consumers have only 50% of the amount they used last year. Consumers with empty bins are to get preference.

No Automatic Price Boosts

Announcement by the National War Labor Board that employers may raise substandard wages to 40¢ an hour without NWLB approval, even if they will then have to ask OPA for price relief, doesn't mean that the price increases will be automatic. Employers who push rates up to 40¢—or who make increases below that level—will have to show OPA that this involves financial hardship on them, justifying price advances.

If raising its lowest paid workers to 40¢ an hour forces a company to jack up wages of higher paid employees, it must petition NWLB for permission to make these additional boosts.

Capital Gains (and Losses)

A hint that the Army won't take the rap for heavy inventories in contractor's hands when contracts are canceled is seen in the circular being sent out to prime and subcontractors to shorten up on inventories.

The National Labor Relations Board won't ask Congress for repeal of the strike referendum provision of the Connally-Smith Act. The law has put a prop under the board by giving it an important function to perform in effecting an antiunion policy and, incidentally, a reason to tap Congress for bigger appropriations.

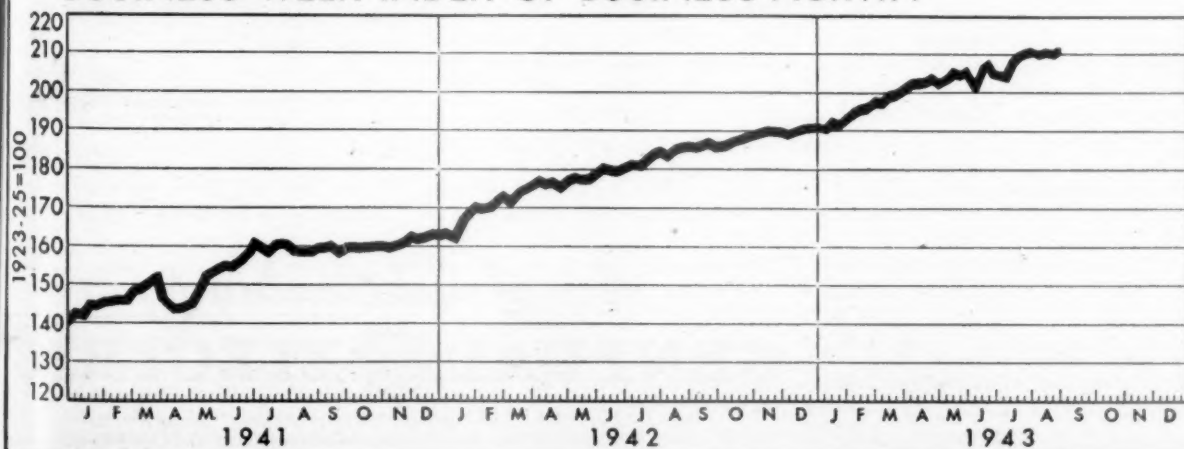
Rubber plant expansion won't have to run to the \$95,000,000 originally projected (page 18), William Jeffers reveals. Labor and management representatives agree (which is a victory for labor) not to build new plants in areas of easy manpower but to put new machinery in existing plants.

—Business Week's
Washington Bureau

FIGURES OF THE WEEK

	3 Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
THE INDEX (see chart below)	*212.2	†211.0	211.7	198.8	186.9
PRODUCTION					
Steel Ingot Operations (% of capacity)	99.4	99.4	97.7	98.2	97.6
Production of Automobiles and Trucks	20,055	19,820	19,900	17,805	21,100
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	\$7,322	\$6,731	\$10,068	\$13,489	\$37,949
Electric Power Output (million kilowatt-hours)	4,322	4,265	4,227	3,893	3,640
Crude Oil (daily average, 1,000 bbls.)	4,196	4,218	4,133	3,873	3,964
Bituminous Coal (daily average, 1,000 tons)	1,987	†2,005	2,025	2,027	1,844
TRADE					
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	82	81	81	75	82
All Other Carloadings (daily average, 1,000 cars)	67	67	67	51	63
Money in Circulation (Wednesday series, millions)	\$18,303	\$18,214	\$17,799	\$15,952	\$13,057
Department Store Sales (change from same week of preceding year)	+15%	+4%	+19%	+33%	-3%
Business Failures (Dun & Bradstreet, number)	45	54	48	111	141
PRICES (Average for the week)					
Spot Commodity Index (Moody's, Dec. 31, 1931 = 100)	246.8	245.4	244.1	247.7	231.0
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	160.5	160.3	160.7	159.0	153.7
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	215.2	212.6	209.9	205.6	181.2
Finished Steel Composite (Steel, ton)	\$56.73	\$56.73	\$56.73	\$56.73	\$56.73
Scrap Steel Composite (Iron Age, ton)	\$19.17	\$19.17	\$19.17	\$19.17	\$19.17
Copper (electrolytic, Connecticut Valley, lb.)	12.000¢	12.000¢	12.000¢	12.000¢	12.000¢
Wheat (No. 2, hard winter, Kansas City, bu.)	\$1.41	\$1.39	\$1.39	\$1.38	\$1.12
Sugar (raw, delivered New York, lb.)	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.)	20.53¢	20.24¢	20.60¢	21.11¢	18.72¢
Wool Tops (New York, lb.)	\$1.370	\$1.355	\$1.370	\$1.254	\$1.213
Rubber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
FINANCE					
90 Stocks, Price Index (Standard & Poor's Corp.)	93.2	93.2	93.4	86.9	68.4
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.82%	†3.82%	3.81%	4.03%	4.27%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.69%	2.69%	2.68%	2.77%	2.81%
U. S. Bond Yield (average of all taxable issues due or callable after twelve years)	2.28%	2.28%	2.28%	2.32%	2.34%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	†1-1%	†1-1%	†1-1%	†1-1%	†1-1%
BANKING (Millions of dollars)					
Demand Deposits Adjusted, reporting member banks	35,145	34,311	33,839	31,129	27,168
Total Loans and Investments, reporting member banks	46,719	47,040	46,482	41,353	34,504
Commercial and Agricultural Loans, reporting member banks	5,739	5,740	5,628	6,042	6,659
Securities Loans, reporting member banks	1,418	1,373	1,371	953	892
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	34,209	34,574	34,072	28,438	20,564
Other Securities Held, reporting member banks	2,902	2,906	2,931	3,272	3,462
Excess Reserves, all member banks (Wednesday series)	1,110	1,290	1,020	1,788	2,342
Total Federal Reserve Credit Outstanding (Wednesday series)	9,137	8,586	8,418	6,223	3,525
* Preliminary, week ended August 28th. † Revised.					
‡ Ceiling fixed by government. § Date for "Latest Week" on each series on request.					

BUSINESS WEEK INDEX OF BUSINESS ACTIVITY





THIS? A WAR WEAPON?

Remember the old-fashioned stereoscope — grandfather's substitute for the movies? Remember how it made pictures stand out in three-dimensional relief?

Well, the same idea is being used in stereoscopic airplane cameras today. Because stereoscopic pictures show up hidden depressions and hills that are not always apparent in the usual aerial photograph.

Grinding stereoscopic lenses, in fact, all highly-corrected lenses, is a delicate precision operation. In order to insure

accurate measurements and to avoid uncontrolled expansion, lenses are tested in special *air conditioned* rooms... maintaining a constant temperature at all times.

Air conditioning is used similarly in making the famous Norden bombsight, in precision machining, and in many other industrial processes.

To do exacting war jobs like these, General Electric engineers have developed dependable air conditioning and industrial refrigeration equipment—

equipment that had to be more efficient, more compact, and more flexible.

In the post-war period, the public will be enabled to buy not only new—but vastly improved air conditioning—from General Electric.

☆ BUY WAR BONDS ☆

General Electric Co., Air Conditioning and Commercial Refrigeration Divisions, Section 4310, Bloomfield, New Jersey.

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THE OUTLOOK

A New Production Control Job

Manpower shortages are undermining present systems allocating materials for munitions, and though the war news is good, reasons abound for insistence on pushing output.

The curve of complaints about complicity's retarding war production hit new low this week—for several reasons. Washington not only has come to the realization that manpower shortage is eating most of the difficulty, but also is striving for stronger—albeit still piecemeal—measures to counteract the problem (page 5, 16, 108).

Donald Nelson also reported this week that July munitions production was up 3% over June, a much sharper advance than in May or June. Output is still below schedule, but the spread did not widen much in the month.

Warner Thought on the War

Foreign developments have tended to dispel whatever complacency was arising. Even though the Germans this week were forced to begin a major strategic withdrawal of their southern Russian lines, political factors in Italy have worked to our advantage as some had hoped, and for the present, war variables have returned to the slower schedule of preparation and attack. On top of that has come much rumor-mongering—and some thoughtful speculation on the chances of a Soviet-Nazi peace (W—Aug. 21 '43, p. 15).

Such a move may be altogether improbable, but it is clear that, if it did come, it would knock all present planning on the war's duration into a cocked hat. This is a reminder that there can be more than one angle to the truism that now the political outranks the military in the outlook. The war could be much lengthened as well as shortened by future political developments.

That's why both business and Washington, planning for victory and reconversion, must proceed with considerable caution—even though there has been nothing tangible in the international scene to require alteration of basic timetables.

Military Imponderables

There are uncertainties even beyond the political. What, for example, might be the effect of a deep German withdrawal from present Russian lines, assuming that neither a Soviet peace nor a Nazi collapse eventuates? For some time, the longer supply hauls and the rehabilitation of communications, transport, industry, agriculture, and civilian

living conditions in liberated areas would slow a further Russian advance—freeing more German troops to face an Allied invasion. But the time Hitler would gain would be tempered by the economic loss to Germany of Russian coal, food, ores, and other supplies.

With manpower becoming all-controlling, arms producers foresee a new and difficult production control problem for WPB, assuming a protracted conflict. Allotments of materials will have to be matched with allotments of manpower and both tied more closely to delivery schedules for arms.

The WPB has long been almost solely preoccupied with materials. The basic assumption underlying the Controlled Materials Plan was that once copper, steel, and aluminum were brought into a balanced supply-demand

relation, program by program and plant by plant, other raw and fabricated material bottlenecks would be eliminated.

Allocation of 16 other raw "CMP materials"—zinc, nickel, tin, etc.—is handled by the industry divisions. Thus far, there have been some uneven supply situations resulting from this separation, leading to requests for improved integration of controls.

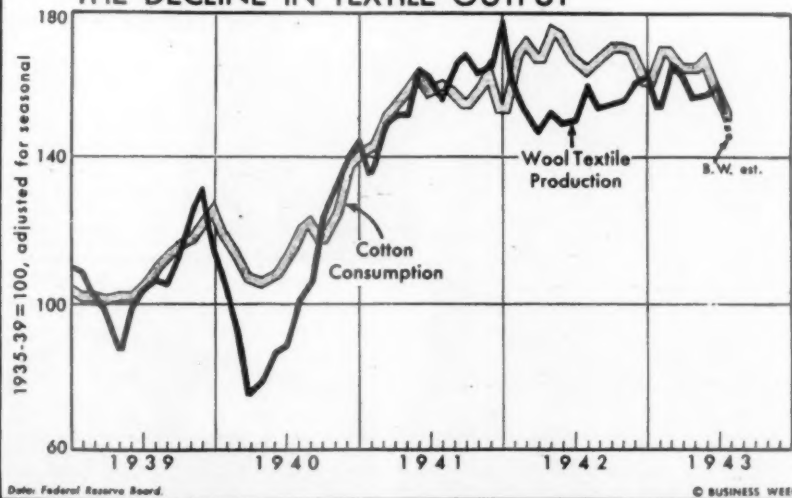
More acute problems arose in the field of components—extrusions, generators, bearings—when end-product arms assemblers found they had insufficient parts supplies. Again, separate treatment by the WPB was applied.

Throughout, adequate manpower supplies for all producers were assumed. Now the lack of sufficient workers threatens output of end-product munitions. But, more important, the manpower shortage may upset the whole fabric of materials control.

Varying Impact

For example, the flow of so basic a material as steel is sustained, but nickel production is being reduced, and there is no automatic way at present to reconcile the two. In general, supplies of

IN THE OUTLOOK:
THE DECLINE IN TEXTILE OUTPUT



The July drop in both wool and cotton textile output points up the tightening manpower squeeze on both lines. Actually, activity in the month fell off partly because of vacations and may rebound temporarily later. But the chart does show how output has been steadily declining particularly in cotton, where the drop can only be attributed to manpower, for raw materials have always been ample. Wool

textiles were limited in 1942 when foreign raw supplies were endangered; but after more raw wool was allocated this year, output has still tapered off. This worsening pinch will prove a key factor in consumer civilian supplies. Right now, however, Army buying of cloth is letting up, but the scope of future rehabilitation and lend-lease demands for liberated areas in Europe is still a key question.

the various raw materials will be differently affected by the labor shortage; fabrication of these into components and parts in the anticipated quantities likewise can no longer be assured, now that manpower is squeezing some industries and areas harder than others; and finally, various end-product assemblers may find that they have adequate labor forces but insufficient materials or too few workers and plentiful parts.

Immediate difficulties are being handled piecemeal. But a general overhauling of the allocations-scheduling structure, to link all materials, parts, and manpower supplies through the productive processes, seems to be indicated.

And for the Civilian?

More than before, currents in civilian supply are crossing. But, in the aggregate, the present declining trend is flattening out.

Among the favorable factors is the rise in imports. Another one is Washington's concern lest supplies of some essential items drop below bedrock. That's why fourth-quarter allotments to civilians were raised. And this week, WPB permitted drawing on 400,000 tons of "frozen" steel stocks for consumer goods where allowable production is not being met. A further aid is the easing of Army buying of soft goods. However, this may only be temporary and may only compensate for reductions forced by the manpower shortage.

Laundries Rebel

Irritation of Kansas City owners at OPA delays on price action boils over as 15 of them decide to shut down.

In the past eleven months, 550 laundries ranging from medium to large size and some 7,000 hand laundries have closed their doors under pressure of price ceilings, labor shortages, and staggering loads (BW—Jun.12'43,p38). Although the closings have occasioned deep governmental concern, little has been done to relieve the pressure on the distraught laundry owners.

● **Mass Suspension**—This week, 15 of the largest Kansas City (Mo.) laundries decided it was time for a showdown. Unable since June 11 to induce favorable OPA action on an application for a 25% blanket increase in prices, they made good their threat of a week earlier and shut down. Since the 15 handle some 70% of Kansas City's total volume, the mass suspensions threw an impossible burden on the survivors. Their dry cleaning departments remained open.

What burned them up was OPA's authorization to seven smaller Kansas City laundries to increase prices 2% to 15%. OPA contends that their appli-

cations, which have languished in regional OPA office at Dallas, since June, do not contain the data necessary to support need for relief.

● **Can't Keep Pace**—In despair at the creasing strangulations of red tape, laundry owners reply that cost shift too rapidly—production per worker has fallen off sharply during hot weather, soap costs have risen—to keep pace with OPA regulations.

As Kansas City's white collars begin to betray deeper hues, rumbles of discontent from laundry owners in at least a dozen other communities were rolling through OPA's marble corridors. In main, their complaints fit the Kansas City pattern, that applications for relief have been gathering dust for weeks, often months, in government pigeonholes.

● **More Delay in OES?**—Unwilling to accept all the blame, some OPA offices privately are passing the buck to Fred Vinson's Office of Economic Stabilization for sitting on the applications which OPA has cleared them.

Because many customers were rationing and skeleton laundry staffs were padded somewhat by the addition of high school boys, last month was easier than the landslide months since the first of the year (BW—Jul.10'43,p32). But the end of school vacation foreshadows for the laundries, as much as for industries directly involved in production (page 99), a critical period of labor shortage.

China's Own

Subassemblies for plane to be made in California plant organized and staffed by Chinese and to be built by DPC

Chinese language newspapers in San Francisco this week published full-page "help wanted" advertisements calling upon the members of the Chinese American colony to rally behind a unique project—an aircraft subassembly plant to be staffed by Chinese in all key executive posts.

● **Parts for Havoc**—The plant, to be built by Defense Plant Corp. at an undisclosed spot in California, will turn out parts for the hard-hitting Douglas A-20 Havoc light bomber. DPC hopes to complete construction by the end of October.

Ordinarily this schedule would leave plenty of time for the sponsors, China Aircraft, Inc., to recruit a staff among those West Coast Chinese whose familiarity with English has been a barrier to personal participation in the war production program. But in this case, virtually all of the workers will require

To Editors Publishers and Radio Executives:





The Oakland Chamber of Commerce is sick and tired of seeing and hearing Henry J. Kaiser referred to as "West Coast Shipbuilder," "National Industrialist," etc., etc. We hope these photos will convince all that the proper appellation is "Henry J. Kaiser of Oakland, the Natural Industrial Center of the West."

LATHAM SQUARE BLDG. HEADQUARTERS OF THE HENRY J. KAISER COMPANIES, OAKLAND, CALIF.

HOME OF HENRY J. KAISER, 664 MADISON ROAD, OAKLAND, CALIF.

OAKLAND'S OWN

The West is never prone to give up one iota of earned acclaim, and Oakland's Chamber of Commerce serves public notice on press and radio that it's "sick and tired" of seeing others—

even other westerners—bask in the reflection of achievements of its own spectacular native son, Henry J. Kaiser. But it's an odds-on bet that, with Kaiser's expansion into eastern aviation and despite Oakland's vexation, others will continue to claim him.

aining in the jobs they will be expected to fill, and the training will take time. Foremen in the Making—Douglas Aircraft Co. took the first batch of trainees under its wing this week. A number of Chinese were taken from San Francisco to the Douglas plant at Santa Monica, Calif., to learn sheet metal work. The apt pupils among them likely will be designated instructors for those who follow and eventually may be eased into supervisory positions.

Credit for the idea goes to a group of young Chinese on the Coast who saw in it one means of tapping the reservoir of Chinese-speaking labor and at the same time bucking the morale of their bilinguistic countrymen who have not been able to get jobs in war plants where English is spoken. The young San Franciscans first won the blessing of their elders, the Chinese Six Com-

panies (BW—May 11 '40, p. 26) or families, without which no Chinese enterprise on the West Coast could prosper.

• **Hiring Men and Women**—China Aircraft is recruiting a force of 400 men and women. Whether this is to be the whole staff or the nucleus for a larger one is a secret which the Chinese sponsors are prudently keeping to themselves. The spark plugs of the enterprise are two representatives of the Chinese nationalist government, Col. Gee S. Gow and D. S. Fong.

Plans for the parts factory were worked out at a series of conferences at Wright Field between representatives of the Army Material Command and of the Chinese Air Force. Chinese conferees were Col. Lynn Chu, member of the Chinese Commission on Aeronautical Affairs, and Capt. P. S. Sheh, a liaison officer.

OPA's Fear of Inflation Ebbs

Public has put aside enough of its vast purchasing power so the lid hasn't been blown off, but supply of consumer goods will get still smaller, and situation remains highly explosive.

Official thinking on inflation in Washington is doing an about-face. Six months ago, Washington saw no way to head off an explosive rise of prices. Today, government agencies are making their plans on the assumption that the worst danger is past.

• **In Rough Balance**—Inflation still is a threatening possibility, but the threat is less frightening to Washington now. For the time being at least, the various factors that determine prices have struck a rough sort of balance. In the past six months, farm prices have been flattened out, the Little Steel formula has been reinforced, and the trend of the cost-of-living index has at least temporarily reversed.

Although precarious, this balance gives the Office of Price Administration and other control agencies something to work on. If they can preserve it, they will have a good chance to come through the war without any great upheavals in the price structure.

• **Change of Tactics**—The wobbly equilibrium on which the government now pins its hopes is a long way from what officials had in mind a year or so ago when they talked about using taxes and bond sales to mop up consumer purchasing power and bring expenditures into line with the supply of goods.

So far, taxes haven't made much of a dent in total purchasing power. Congress hasn't shown any inclination to pass a truly deflationary tax bill, and the Administration hasn't seriously recommended one. Without admitting it, most officials have given up the idea of using fiscal policy as an important

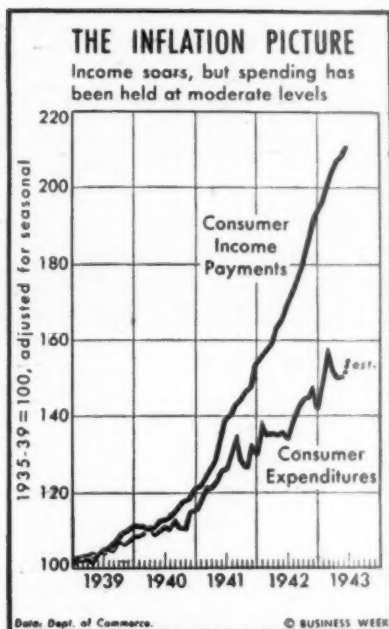
weapon in the fight against inflation.

• **All-Time High**—In the second quarter of this year, income payments to individuals hit an annual rate of \$140,500,000,000, the all-time high. Taxes of all sorts promised to siphon off only \$14,700,000,000, which meant that disposable income was piling up in the consumers' pockets at the rate of \$125,800,000,000 a year. To absorb it, goods and services for consumption were becoming available at the rate of only \$89,200,000,000 a year.

On paper, this excess purchasing power is enough to blow the price system apart. But the Administration's economic experts gradually have realized that inflation isn't running on the theoretical timetable. Although consumers have the purchasing power to back a terrific spending spree, they seem willing to salt down a pretty big part of it. Consequently, a sizable slice of their income is going into savings instead of pushing upward on prices.

In the second quarter of 1943, individuals were saving at the rate of \$36,600,000,000 a year. The experts think that somewhere between \$5,000,000,000 and \$10,000,000,000 of this was hot money—money saved only because consumers couldn't find anything to buy with it. They figure the hot money couldn't have been much bigger than this, else enough of it would have been pressed into spending to knock OPA's flimsy system of controls off the map.

• **Panic Buying Forestalled**—Savings go up as income goes up, but no one had expected the propensity to save to rise as steeply as it has. That the consumer



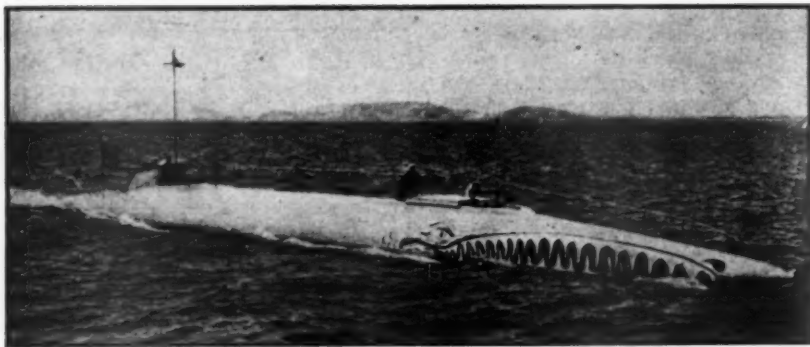
Angles of these curves are all-important. Normally, the two run together. In war, they must diverge. If consumers spent more, bidding prices up, it would add to sellers' incomes; but then, both curves would rise more steeply. This past behavior is a hopeful sign for some. Others fear the "hidden inflation" in the expenditure total, particularly as income rises but supplies contract.

had "sprung a surprise" was apparent even a year ago (BW—Jul. 25 '42, p. 100); but the acceleration in savings since then has again outrun economists' hopes. Even the first part of 1941, when income payments to individuals were running at the rate of \$82,800,000,000, savings were only \$7,800,000,000.

For OPA and other control agencies, the question is: Why were consumers willing to save at the rate of almost \$37,000,000,000 in the second quarter of this year instead of using their extra income to bid up prices? Officials are pretty sure now that the answer lies in the supply of goods—the availability of basic necessities which, in general, forestalled panic buying.

• **Dollar Value Increased**—Although consumers have been pinched in some spots, the dollar volume of available goods and services has been about the same since the start of the war, even after compensation for price increases. In terms of 1941 prices, the annual rate of consumer expenditures in the second quarter of this year was \$76,000,000,000, while for the year 1941, the total was \$74,600,000,000.

In particular, consumers haven't had to face serious shortages of necessities—food, shelter, clothing—except for tem-



FUTURISTIC SHIP

If a Southern California inventor is on the right tack, cargo ships of the future may resemble a keel-less submarine with a concrete hull. With a 125-ft. model, costing \$80,000 and resembling an overgrown shark, Hal B.

Hayes recently demonstrated his new "Lektron" on choppy San Francisco Bay for the U. S. Maritime Commission. In that test, the 11-ton model, powered by two V-8 engines, knifed through the waves with a minimum of pitch or roll. Built to full scale, the ship would displace 10,000 tons.

porary pinches in a few localities. With their basic needs satisfied, consumers are going easy instead of scrambling frantically in an attempt to boost their standard of living.

Where a shortage of some necessity has occurred, a miniature inflation has come with it. The stampede for nylon stockings, the soaring rents in defense centers, the prices on fresh fruits and vegetables have demonstrated what consumers will do when the real pinch comes.

• **Other Stabilizing Factors**—If the government had cut down civilian supplies as much as it once intended, we probably would have been whooping along the inflationary spiral long before now. Until six months ago, WPB was talking about allowing civilians \$55,000,000,000 or \$60,000,000,000 worth of goods and services. On that basis, there would have been an additional \$20,000,000,000 or so of wild purchasing power pounding away at the price structure.

Civilian supply plus consumers' savings have been the key to the situation in that they have made possible the successful application of such direct controls as OPA ceilings and National War Labor Board wage stabilization. If its luck holds, the Administration will get just about as far on this basis as it would have on a theoretically sound but politically hopeless attempt to fight inflation with fiscal policy.

• **Insecure Basis**—Although the inflation controllers are feeling happier these days, they know they are not out of the woods yet. First and foremost, they know that the present unsteady balance depends entirely on consumers' willingness to choose higher savings over panic spending.

Secondly, officials know that hidden inflation is an important if unmeasurable force building up pressure against the

wage and price lines. The figures show higher consumer expenditures now than in 1940, even after allowance for \$17,000,000,000 taken from consumers in overt and measured price increases. This would seem to imply an increase in amount of goods sold.

• **Those Hidden Forces**—Yet, other indications—data on production, employment, inventories, and government purchasing in individual industries—are that the physical supply of goods and services has contracted. The discrepancy—hidden inflation—is attributable to quality deterioration, chiseling on price ceilings, and forced upgrading of purchases as high-price and high-profit lines are substituted for low-price ones. These and similar phenomena, difficult to control or measure directly, in turn reflect the impact of excess purchasing power. But thus far, the hidden price rises have not served to upset direct stabilization controls.

With this in mind, Washington can't feel safe for at least another six months. Despite recent actions by procurement agencies and the WPB to ease up on certain civilian supplies, and despite the good fortune of favorable weather for a big food and fiber crop this year, the actual physical volume of goods and services available to consumers is still shrinking.

• **Inventories Drain Off**—The manpower shortage is squeezing down many productive and service lines, and once sizable inventories of many goods are fast nearing the vanishing point. At the same time, total consumer incomes are rising as manpower shifts to more essential, higher-paying industries and works longer hours, but Washington is now confident that, so far as further hidden inflation does occur, it won't be sufficient to crack the economic stabilization structure.

Hiring Controlled

Here's a closeup of the Buffalo plan of job referral which WMC is readying for five labor-starved cities on West Coast.

The theory that the War Production Board should concern itself with schedules, allocations, and output, while the War Manpower Commission handles labor has gone by the boards. The order of the importance of things has changed. • **Concerned with Manpower**—With its sights fixed on output, WPB had first to deal with raw materials and plant, then component parts. Now it is manpower which makes most of the detours between quota and delivery. The result is that the production men—Donald M. Nelson, Charles E. Wilson, and their aides—are taking more and more initiative in matters which, on paper at least, belong in Paul McNutt's manpower province.

The War Dept.'s predilection for a national service act finds much unofficial support in WPB. The board does not harbor the illusion that a work draft law would make a quarter of a million workers grow where none grew before. But it does feel that present controls, which go about as far as it is possible to go without introducing compulsion, fall far short of providing the maximum utilization of the existing labor force.

• **Control for Five Cities**—In an effort to nudge WMC into using what powers it has to their limit, WPB is demanding that the most drastic controls possible be applied to five West Coast cities where ship and plane output are being impeded by labor shortages.

These cities are San Francisco, Los Angeles, San Diego, Portland, and Seattle. In response to WPB pressure, the manpower commission is readying for them its "Buffalo Plan," most severe manpower regulation program in its record of experiments.

• **Labor Requirements Board**—At the heart of the Buffalo plan is a five-man labor requirements board. This board is headed by a nonvoting chairman, Edward Barcalo, retired president of the Barcalo Mfg. Co., and has four government members, representatives of the Army, Navy, National War Labor Board, and WMC.

This group is given confidential requirements and production information by the armed forces, the WPB, and other agencies concerned with producing war material. The board functions this way: On the basis of the information it received, it draws up a list of firms whose need for male help is deemed most pressing.

• **USES Clearance Mandatory**—Every man who is hired in the area must be

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ased through the United States Em-
ployment Service office. This applies
all male help, whether going into a
plant or a nonessential industry.
Staff penalties are provided for employ-
ees who might hire without the formal-
ity of a USES certificate of availability.
At a recent closed meeting of some
Niagara Frontier industrialists, the
statement was made by a reliable au-
thority that, whereas last February,
March, and April many frontier plants
were far behind schedule, today there
are only a few.

Almost 30,000 Referred—In the first
few weeks after the plan was established
in June 14, approximately three-fourths
of all male applicants at the USES were
sent to firms on the requirements board's
priority list. Later the trend was the
other way because of the influx of
schoolboy vacation workers.

Not every male applicant for a job is
sent to a firm on the secret priority list.
There is, in addition to the priority
firm's needs, the factor of the utilization
of a man's highest skill to consider. If
a priority firm cannot use a man at his
highest skill, he will be referred to an-
other firm that can—even though the
latter company's priority rating may not
be so high. To date, 16,112 males have
been referred to priority firms; 13,173
have gone to nonpriority businesses.

Where Gravy Goes—There have been
—and still are—complaints from manage-
ment and labor, although several weeks
of operation have lessened manage-
ment's initial skepticism. The heavy
industries, such as the steel mills, ma-
chine shops, and the like, have, in the
main, reaped the greater benefits. Their

rivals in the labor market, the so-called
glamour industries with their higher
wage scales, are not so happy; they have
to get along as best they can.

Labor has two major complaints:
first, that under the present rules many
men are being referred to jobs that have
lower starting rates than they enjoyed
in previous positions; second, that the
appeal procedure is too slow.

Petition to WMC—Both these com-
plaints are in the process of adjustment.
The war manpower committee, which
acts as an advisory group and which in-
cludes representatives of labor and man-
agement, has petitioned the WMC to
take up with War Mobilization Director
James F. Byrnes the possibility of de-
claring the Niagara Frontier one of
those "rare and unusual" areas wherein
a lifting of the wage ceiling would be
justified in the interests of greater pro-
duction.

Labor's position is that could the
wage ceiling be raised the complaints
against being forced to take a job at
lower wages would almost vanish. How-
ever, a spot check was made recently by
the USES. The survey showed that
62% of the males referred during a
three-day test period were sent to plants
where the starting rate was higher than
it was in the firms they had just left.
In 27%, the rate was the same. In
11%, it was lower—and most of the jobs
in this division were in the unskilled
category.

Wage Variations Resented—Labor
also has complained that rates paid by
competitive firms have varied greatly.
It is expected, however, that the forth-
coming establishment of "going wage"

rates in the metal trades will overcome
that—provided there is not too great a
spread between the maximums and
minimums.

In some respects, the controlled re-
ferral hiring plan has been a whipping
boy. For instance, labor's objections
to the plan's details become more vi-
olent whenever there is what labor re-
gards as an unfavorable development,
such as the passage of the Connally-
Smith bill.

Production Improved—It is conceded
that some plan of controlling the sup-
ply of male labor had to be devised.
Buffalo—that is, the Niagara Frontier
embracing Erie and Niagara counties
of New York—was chosen as the guinea
pig. While the plan still has a few
bugs and irritating wartime restrictions,
no better plan has been devised, and
since the plan was established, produc-
tion records have been much improved.

Strike Law Wins

Coal miners, charged with
violating Connally-Smith Act, are
sentenced on "no defense" plea,
but terms are suspended.

The government has ended victori-
ously its first prosecution under the
Connally-Smith War Labor Disputes
Act. This week in the U. S. District
Court at Pittsburgh, 27 members of the
United Mine Workers were given sus-
pended sentences of six months and
placed on probation for three years;
they had pleaded *nolo contendere* to
charges of instigating wildcat strikes in
Western Pennsylvania coal mines in de-
fiance of the law.

Three other miners also indicted July
26 (BW—Jul.31'43,p17) are in hospitals
recovering from injuries suffered in mine
accidents, and they will enter *nolo con-
tendere* pleas Oct. 11.

The surprise decision to enter the no
defense pleas for the 30 miners and
seek leniency rather than face a lengthy
trial, which would have cost the gov-
ernment \$100,000, was an about-face to
the earlier plan of the defense to chal-
lenge the constitutionality of the law
(BW—Aug.21'43,p82). When Harry
A. Estep, defense attorney, last month
sought to quash the indictments on
grounds the Connally-Smith Act was
unconstitutional, Federal Judge F. P.
Schoonmaker held the law was a valid
exercise of war powers and overruled the
motion to quash.

But the fact that the government had
lined up 300 witnesses to prosecute the
case and the difficulty of attacking the
constitutionality of emergency measures
during time of war are believed to have
influenced the decision to enter the
nolo contendere pleas.



QUICKIE WAR PLANT

Probably the quickest way to expand
factory space without slowing produc-
tion is to throw up a big circus tent
(BW—Mar.6'43,p36). And that's just
what Lamson Corp. turned to recently

after several wartime expansions, add-
ing 50,000 sq.ft. to its space at Syra-
cuse, N. Y., still left it with a floor
shortage. The new 40x100-ft. big top
houses an assembly line where the
firm's 60-ft. belt conveyors get finish-
ing touches before shipment.

Now It's Tires

Rubber supply is assured by rise in synthetic output, but new facilities and more labor are needed to make casings.

A manpower and equipment shortage have brought on the "crisis in rubber" anticipated ever since the Japanese overran Malaya, cutting off the source of more than 90% of America's natural supply.

• **Crisis in Tires**—Coming at a time when the rubber industry is just beginning to spew out enough synthetic to meet the nation's ravenous war needs, the crisis has nothing to do with the rubber supply. Instead, it concerns the ability of the industry's tire plants to fabricate enough casings to keep the vital civilian transportation system rolling.

Right now, the industry is scraping bottom on tire supply. Stocks of auto and truck tires, in the hands of dealers and manufacturers and in Defense Supplies Corp. warehouses, represent barely a month's needs compared to the normal 90- to 120-day inventory of prewar days.

• **Motorists on the Spot**—Trade sources estimate that there are probably no more than 2,000,000 to 2,500,000 passenger-car tires in the entire country. The 5,000,000 used tires, salvaged from the 11,000,000 casings collected from motorists in the idle-tire-return plan, are practically gone, and some 1,200,000 ration certificates for new and used tires are in the hands of motorists who are unable to use these "hunting licenses" because of the tire scarcity.

This situation sent rubber industry and labor leaders scurrying to Washington this week to iron out details of the \$95,000,000 proposed expansion in facilities for producing synthetic tires, a program submitted to WPB by Rubber Director William Jeffers.

• **How about Manpower?**—That expansion, which the tire makers will finance, will only partly answer the question of how the industry is to meet the 30,000,000-unit goal for auto tires next year. For, while the expansion includes provision for increasing facilities for processing rubber, the mere spending of dollars won't correct the manpower problem.

Actually, the return to the manufacture of auto tires is like trying to start a new business. When Uncle Sam froze tire sales and stopped auto tire production four days after Pearl Harbor, he closed an industry which had produced 50,000,000 auto casings in 1941.

• **Complete Conversion**—Auto tire building machines were stored away, and the valuable space they occupied was taken over by equipment for building truck,

airplane, combat, and other military tires or converted to entirely different manufacturing operations.

Last year, while truck tire production rose to 12,400,000 from 11,700,000 units in 1941, auto tire output dribbled to 2,900,000 units, including some 350,000 crude rubber tires for military and lend-lease needs, and the rest all-reclaim "doughnuts."

• **Output Fails to Step Up**—In April of this year, the industry optimistically started production of synthetic auto tires containing only enough crude to provide adhesion between plies and for building the beads. July output was to have been 1,100,000 units, August 1,250,000, September 1,500,000, with 2,000,000 tires monthly for the final quarter. Tipoff on the industry's plight is that July output was barely 700,000 units, August hardly more, and it's improbable that there will be a million-unit month before late this year—if then.

The going's getting tougher. The rubber processing departments—where raw rubber is mixed, heated, and chewed up in huge two-story high internal-mixing machines called Banburys, plasticated in devices resembling big screw sausage grinders, compounded with various ingredients to impart desired qualities, and slabbed and sheeted on mixing mills—can't keep up with the demands for processed rubber from hungry departments on straight war work.

• **Hard to Handle**—The trouble in the processing end of the business is twofold—lack of manpower (aggravated by

rising absenteeism) and the difficulties in kneading, mixing, and compounding synthetic rubber into usable form. Synthetic lacks "guts," processing men say, meaning that, unlike natural crude, it is crumbly in the raw state and does not adhere or mix readily with itself. To counteract that weakness, synthetic rubber must be processed longer through all operations before it is fit for manufacture into tires, fuel cells, de-icers, or the countless other products for war.

Consequently, the switch to synthetic rubber has reduced the industry's processing capacity by 15% to 20%. Similarly, tire capacity is reduced, because greater time is required both to build and to cure synthetic tires.

• **More Mixers Required**—That's why the biggest chunk of equipment money in the expansion program will buy some 90 Banbury mixers, many of them going into existing plants to offset reduced processing capacity. Even so, it's unlikely that the industry will be able to reach more than two-thirds of its 1944 auto tire goal, trade observers believe.

The tire distribution field reflects this sorry production picture: By the year end, WPB's Rubber Division will have released some 5,000,000 new synthetic tires for sale, 7,000,000 pre-Pearl Harbor crude rubber casings, and some 4,000,000 used tires to meet the needs of the 25,000,000 to 26,000,000 autos still rolling. Index of the chaos in tire distribution is the fact that there's no such thing as a 100% exclusive brand dealer. Goodyear dealers are likely to have B. F.



FOR THE BOYS

With autographs and messages to flying friends, Douglas Aircraft workers at Long Beach, Calif., provide a send-off for their 2,000th C-47 military cargo plane. Their production record is worth the festivities—considering

that the domestic airlines had only 359 DC-3's—familiar prototype of the C-47—on domestic airlines in 1941 when the Long Beach plant opened. No. 2,000 gives little idea of the amount of cargo plane production since a number of companies are engaged in building such carriers.

Goodrich, Firestone, and other brands on their shelves, and the same goes for other companies because dealers are buying from each other to meet demands of customers who are too anxious to obtain a tire to worry about what make it is.

• **Record in Truck Tires**—The truck tire situation presents a different picture. Here scarcity of civilian tires is caused almost entirely by the mounting requirements of our armed forces and lend-lease. Truck tire production is at an all-time high—should hit 13,500,000 units this year, only 5,000,000 of which will go to the civilian economy's more than 4,300,000 trucks. Most serious is the lack of large tires for the large highway transports. That's because machines for building these big casings also are used for making airplane and combat tires.

Greater truck tire building capacity, as proposed in the expansion program, will help, provided military requirements do not also rise, either as to units or as to weight and size. Yet the truck outlook is not bright, particularly when the limitations of synthetic rubber in truck tires are considered. Although synthetic tires are improving each month, their mileage life is below that of crude casings.

• **A Few Men Would Help**—The return of but a few thousand skilled workers now in the armed forces would turn the tide, some observers believe, when coupled with the expansion plans. One tire plant, for example, with several hundred employees now, could increase its output almost 50% by the addition of but 20 men with the processing, tire building, and other specialized skills which that plant sorely needs.

Even then the industry would find the going rough, for another bottleneck already is on the horizon—the inability of fabric mills to produce the tire cord required next year. The 1944 shortage is estimated at 30,000,000 pounds of cotton tire cord. (Present production is 240,000,000 pounds a year.)

• **Help on Labor Needed**—As in tire production, manpower is the prime shortage in cord. Only draft deferments, a solution to absenteeism, a longer work week (perhaps stimulated by overtime pay), can provide a solution. Production of rayon cord, which the Army favors, is planned at 160,000,000 pounds.

Meanwhile, the trade is watching with interest to see where the expanded tire fabricating facilities are to be located. The powerful United Rubber Workers fears the capacity may be erected outside the big production centers at Akron, Detroit, Los Angeles, Memphis, and Gadsden. But the economics of the situation—getting closer to raw materials sources in the Southwest, lowered power and labor rates, and access to new markets after the war—will dictate the final decisions.

TWILIGHT OF THE NARROW-GAGE

Last remaining bit of Colorado & Southern's line is converted to standard width



Rails' End

Burlington road replaces last of its narrow-gauge track with standard width on highest line in United States.

The Chicago, Burlington & Quincy R.R. system last week eliminated a bottleneck, bidding a sentimental goodbye to its last 13 miles of narrow-gauge track. This was the remainder of a 384-mile narrow-gauge system through the mountains of Colorado.

• **Replaced by Standard**—The 13 miles, providing indispensable transportation access from Leadville, Colo., to the mighty Climax molybdenum mine on Fremont Pass, were not abandoned, but were changed to standard-gauge, thus ending the necessity for a transfer of molybdenum concentrates outward bound to the nation's steel plants and mine supplies inward bound, from narrow- to standard-gauge cars and vice versa.

The line to Climax connects with the Denver & Rio Grande Western's main line at Leadville. Time and expense will be saved, and unit-capacity will be increased, since capacity of each standard-gauge car is about twice that of a narrow-gauge one.

• **Equipment Goes North**—Climax big-wigs and those of the Colorado & Southern (Burlington subsidiary which owned the narrow-gauge) made the changeover a festive occasion, shivering in the bright but heatless August sunshine at Climax, which traditionally has two seasons—"winter, and July and August."

Little engines—numbers 74, 75, and 76—with their stacks grotesquely enlarged by the wire cinder-catchers (to

hold in sparks, avoid forest fires), recognized by rail fans over the country as their sign manual, puffed their last Colorado mile. Then they suffered the humiliation of being loaded on standard-gauge flat cars and shipped off for rebuilding. They will wind up in Alaska for use on the White Pass & Yukon R.R. as will some 20 freight cars, all the rolling stock left.

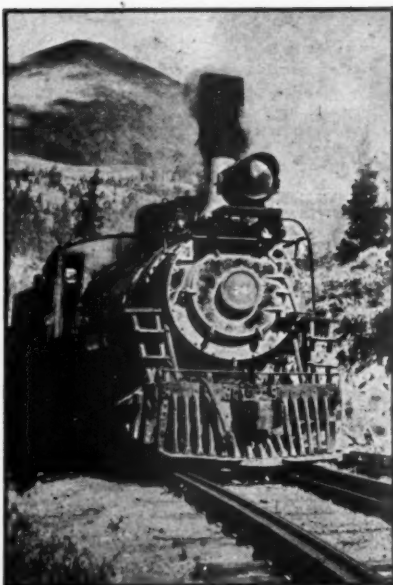
• **Line Crossed Itself**—Once the C.&S.'s narrow-gauge empire extended throughout the Colorado Rockies. The Colorado Central, organized in 1866, climbed the Clear Creek gorge directly west of Denver, serving the then booming gold camps of Idaho Springs, Central City, and Georgetown. It included a famous and fantastic bit of construction, the Georgetown Loop, in which the railroad looped back over itself in order to climb the steep grades in the Upper Clear Creek canyon. This loop was torn down about 1937.

The Denver, South Park & Pacific, of which the Climax-Leadville bit was the last remaining link, was started in 1872 toward the mining country southwest of Denver. When, in 1878, discovery of rich lead-silver carbonates rocketed the defunct gold camp of Oro City into the booming new silver city of Leadville, construction developed into a race to beat the Rio Grande or the Santa Fe to Leadville. The Denver & South Park lost by a year (to the Rio Grande), but there was so much business in the town of 30,000 that it could charge \$29 a ton for freight to Leadville from Denver, or more, it is said, than it cost in those days to ship freight from New York to California around the Horn.

• **No Gold or Silver**—Molybdenum, though known since 1782, was an elemental loafer, just a name in the peri-



Conversion of Colorado & Southern's 15-mile narrow-gage line to standard width brings a sentimental twinge to railroad fans, but a speedup in war traffic to its chief customer—Climax Molybdenum. Making its last run between the big Climax mine (above background) and Leadville recently, Old 76 (right) and its companion rolling stock were shipped to Alaska's White Pass & Yukon R.R. The dinky's grotesque stack is really a spark catcher which traps cinders in a screen and chutes them to the road-bed to avoid setting forest fires.



odic table. The Climax station, on Fremont Pass en route from Denver to Leadville, was noted only as the country's highest. Bartlett Mountain, towering above the station, drew scarcely a side glance from prospectors because it showed not a trace of gold or silver. The miners couldn't even name the black-streaked rock covering Bartlett's slopes.

In 1916, after research had proved the potentialities of the mineral for various uses, notably alloying steel, the transportation outlet offered by the narrow-gage for the solid mountain of molybdenum ore was an important factor in the decision to develop a mine there.

• **Job of the Narrow-Gage**—Climax Molybdenum Co.'s mine has grown to tremendous size, accounting for the bulk of the world's moly. Every bit of equipment needed to build the great crusher and mill, to drill the mine tunnels and "cave down" the ore, to provide homes for 257 families and many single men, and to extract the values from 36,000,000 tons of ore (dug since

1924) came in either by truck or by narrow-gage.

Bit by bit the rest of the narrow-gage system was abandoned, but not this link. The mine is still growing in output and importance (though output is a military secret) so the narrow-gage bottleneck had to go.

• **Over Two Miles Up**—At Leadville, the new standard-gage is 10,207 feet above sea level, and at Climax Station it is 11,319. This makes it the nation's highest railroad, comparing with the D.&R.G.W.'s 10,239 feet on its standard-gage main line at Tennessee Pass, 10,856 on the narrow-gage at Marshall Pass, both in Colorado.

Railroading was railroading in the narrow-gage days. On the 145.99 miles between Denver and Leadville, there were 1,064 curves aggregating 97.34 complete circles. Grades ran as steep as 4.49%.

Migrant Machines

Sale of southern combines to northern farmers facilitated the harvest, but ceiling prices took a beating.

Last spring, grain farmers worried over what they would do for machinery to harvest this year's crop. By now, with the small grain harvest close to the Canadian border, most of them have relaxed. Only in the northern tier of states does any substantial acreage of small grain remain to be threshed or combined. Observers who have watched the harvest move up from mid-June in the Southwest agree that it seems to have been completed satisfactorily.

• **How They Did It**—It was a tight squeeze in many localities. But by sharing machinery, swapping manual labor for machine-hours, working women and children alongside the men, and sweating the last ounce of work out of equipment, the farmers have done it. Trouble may still arise in the Northwest's harvest of oats and wheat, but as each week passes, this becomes less threatening.

One reason the harvest is in the bins with no more than a normal season's loss lies in a black market activity that has flourished in recent weeks. Smart operators in the northwestern states sensed the shortage of combine capacity in that area, with a big crop impending, and got in touch with friendly dealers in southwestern areas where the crop was already in.

• **Over-Ceiling Buyers**—Upshot was a surge of buyers offering farmers in Kansas, Oklahoma, and Missouri fancy prices for their used combines. Manufacturers' blockmen, baffled by the phenomenon, guess that many a three-year-old machine left its home farm at the 1943 new-machine list price, which is several notches above the OPA ceiling for used equipment.

Official position of most industry and trade authorities is that this over-the-ceiling finagling was done entirely outside regular farm equipment trade channels. But many well-informed authorities admit behind their hands that plenty of old-line implement dealers were dragging up and even shipping machines at the originating end of the line, while in the Northwest their opposite numbers were earning commissions by bird-dogging buyers—if they were not more intimately concerned in the transactions.

• **Hope for New Machines**—Southwestern farmers plainly have been induced to sell their old combines in the optimistic belief that at no more cost they can replace them with new machines more easily than industry sources con-

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"PRETTY SOFT FOR SABOTEURS"

ACCIDENT prevention includes keeping saboteurs out of manufacturing plants. For one successful act of sabotage may bring injury and death to scores of men and women workers and seriously delay war production.

Page Fence has for years protected lives and industrial and residential property. To do its work best, Page Fence must be kept free of stacked material which may serve as a screen for the saboteur approaching forbidden areas.

Material piled close to the

fence may slide against it and by bending or crushing open the way to unlawful entry.

Chain link fence has for years

effectively prevented planned "accidents." But fence should be protected as indicated in the panel to the left. These National Safety Council suggestions agree closely with our best experience and observation on the subject.

Page Fence is among the many products we build for Industry, Transportation and Agriculture, essential in peace, vital in war.

The American Chain & Cable Company is happy to cooperate with the National Safety Council in its nation-wide campaign to "Save Manpower for Warpower"—which is now being conducted at the request of President Roosevelt.

National Safety Council "Don'ts" for Protection Against Saboteurs

1. Don't place materials where they may shield a saboteur's approach or afford a shadow in which he may climb a fence unobserved.
2. Don't pile materials near fence where it may project through fence and provide footholds for climbing—or may bend or crush fence.
3. Don't neglect fence maintenance at regular intervals to insure continuous protection against marauders.
4. Don't fail to ground wire fence around transformer stations to protect workers against electric shock.



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is DeLuxe's Field

**Most
Oil
Problems
are**

Preventable!



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DE LUXE OIL CLEANSING
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Also, manufacturers of Cast Iron Pistons of special lightweight design; standard equipment with over forty manufacturers.

sider likely next year. Implement & Tractor, trade paper at Kansas City, is actively campaigning for larger 1944 quotas of combines to be assigned to the southwestern states to replace those lost to the territory in the northern migration of machinery. A questionnaire survey made through county agents by the trade paper shows that 144 counties are known to have shipped 1,038 combines north: Kansas, 668 from 55 counties; Missouri, 148 from 52 counties; Oklahoma, 222 from 37 counties.

But these figures are admittedly incomplete, and the paper estimates the three states lost 2,000 combines and asserts Oklahoma will need 6,000 machines to assure harvesting the 1944 crop. One dealer in Kingfisher County, Okla., shipped more than 50 combines. Marshall County (Kan.) farmers sold around 50 to North Dakota dealers, brokers, and farmers. One trade observer says at least 800 combines thus left Oklahoma.

• **Trouble Still Possible**—While the small grain harvests are in the granaries and elevators, prospects for corn and soybeans are less clear. Early frost could create a bottleneck in cutting and chopping machinery to put soft corn in silos.

Grain corn, as differentiated from silage, likewise depends upon a favorable season. Mechanical corn pickers in general do not stand up against use so well as combines, hence farmer owners are less likely to lend them or operate them to help out the neighbors.

• **Soybeans and Weather**—Rain and snow last fall raised havoc with the Corn Belt's soybean crop, and because the beans are later this year, their situation is still critical. If frost is not too early and if other weather is favorable, the beans will probably be harvested in good shape with available equipment.



QUICK LIFESAVER

Distressed aviators can now repair leaks in pneumatic life rafts in only 90 seconds with Firestone's new waterproof cement and rubber patches. So when fish or driftwood punctures the boat (left), the occupant goes over the side to apply the quick patch (right). Lung power restores the inflation of the life raft (below).

Let 'Em Eat Cake

So says baking industry support of argument for equal sugar ration for all its products without discrimination.

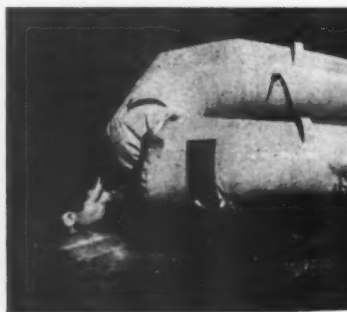
The baking industry is lining up forces for another drive on Capitol Hill to protect the principle of "equal ingredient treatment for all bakery products." Last March and April, the industry won its fight to get enlarged shortening quotas for all bakery products, not just bread alone. Now the industry is getting ready to fight for equal sugar quotas for all bakery products.

• **Same Status for All**—From the start of the war program, the baking industry has insisted that all its products get equal treatment under any rationing allocation, limitation, or priority order controlling the distribution and use of bakery ingredients. In short, the industry has sought to blanket all of its products—doughnuts, pies, cakes—under the same essentiality status that covers bread and rolls.

If successful, this will mean that the industry can go through the war without any serious difficulties because government agencies are agreed that the nation's bread supply gets first call on all ingredients regardless of the supply situation or how other products are treated.

• **New Sugar Quotas**—By fighting hard at every hint of discrimination between classes of bakery products, the industry was successful in its strategy until several weeks ago when new sugar rationing were announced.

Under the new sugar quotas, all indus-



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"Tomorrow night — Fort Knox !"

"We're a little late tonight, folks!"

"Just time to remind you that this broadcast has come to you from Great Lakes Naval Training Station, outside Chicago. Tomorrow we'll be with the boys at Fort Knox, Kentucky. 'Til then, this is Harry Von Zell saying—Good Night!"

Then a tired troupe of entertainers hurries to the Pullman car that's been "home" to them for weeks.

Like scores of other radio, screen and stage stars who are giving time and talent so generously to brighten training camp routine, these folks travel almost constantly. So do huge numbers of civilians engaged in war activities. And thousands of service men on leave.

In spite of this record-breaking traffic, Pullman's usual high standards could be

maintained if *all* sleeping cars were in regular passenger service. But they aren't. Many have an even *more* essential war job. Made up into special troop trains, they move an average of almost 30,000 men in uniform a night.

So, with *more* people seeking space in fewer cars, "going Pullman" is not what it was in peacetime. Fortunately, most passengers don't seem to mind. Hard-pressed by long hours and heavy responsibilities, all they ask is the rest and relaxation that they get *despite* wartime crowds and inconveniences.

And that's so important to so *many*

thousands of people that when you plan to "go Pullman", will you please:

Ask yourself: "Is my trip *necessary*?"
If it is, then . . .

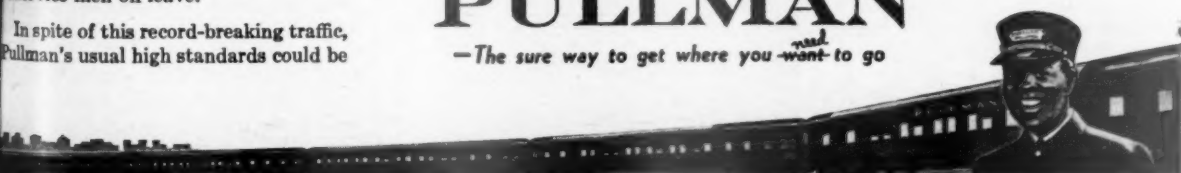
Ask your Ticket Agent on which days trains may be least crowded on the route you want to take. Try to go on one of those days if you can.

Travel light and give yourself and fellow passengers the room that excess baggage would take.

Cancel promptly, if your plans change, and make the Pullman bed reserved for you available to someone else.

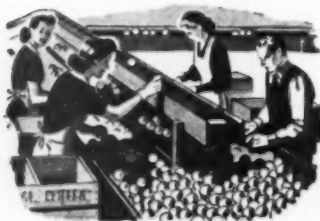
PULLMAN

—The sure way to get where you ^{need} want to go





SMACK IN THE CENTER of Boston, the same delicious oranges that grew heavy on the trees in sunny California groves! It takes *Engineered Air* and lots of it—to bring this tree-ripened flavor of oranges to Boston or any other distant place. From the time California hands reach up to pluck them from the branch, "Air at Work" takes over—through days of crating... storing... marketing. Let's see just how it's done...



1. After grading, precision blasts of moisture-laden air go to work on the fruit—to produce a uniform golden color in every ball of sunshine. Precision Sturtevant exhaust is also called for—to carry away the carbon monoxide which all citrus fruits "exhale".

Yes, you're getting a lot of "Air at Work" whenever you purchase citrus fruits... 26½ pounds of air with every dozen oranges—13 pounds with a dozen lemons—177 pounds with a dozen grapefruit!

HOW MUCH AIR TO PRESERVE THE QUALITY OF YOUR POST-WAR PRODUCT? Engineered AIR... to ventilate, heat, convey, control dust and fumes, or burn fuel more economically... will make the difference between profit and loss for many a post-war venture. Sturtevant is ready to work with you or your post-war planning committee to start solving these "engineered air" problems now.

B. F. STURTEVANT COMPANY
Hyde Park • • Boston, Mass.

2. Next, cold air is blown out into the pre-cooling room via a special Sturtevant air handling system—circulated through every crate of fruit—chilling it to the exact point where full flavor and juice content are retained.



3. Now comes the final touch of precision air control. In giant warehouses, crates are stored under completely conditioned air—controlled within one degree of temperature and one percent of humidity—resulting in the highest quality product at the market, a more extended selling season as well.



Sturtevant
Puts Air to Work

trial users were stepped up from 70 to 80% of the sugar they used during the corresponding period of 1941. However, bread and other bakery products low in sugar content were given 10% of the sugar used during the corresponding 1941 period.

• **Special Bread Class**—This means bakery products have been divided into two groups for the purposes of rationing—that bread and similar products have been put in a special class with a high essentiality rating, while doughnuts and cakes have been put in the general industrial classification. The amount of sugar in the bread is limited to the same amount of sugar in beverages, candy, and chewing gum.

When shortening rationing was introduced last spring, OPA men proposed a similar line of demarcation. The industry forced OPA to back down, and not only got more shortening than the other group of food processors, but also prevented a demarcation line.

• **No Profit on Bread**—The Senate Small Business Committee carried the ball in the shortening matter and is expected to follow suit on sugar. Explanation: the committee's interest is the fact that only large bakers make a profit out of bread. The profitable end of a retailer's business is in the fancy sweet goods.

Thus, the committee can raise a fuss over the fact that the "discrimination" involved in the sugar ration order directed against the small retail baker. However, granting of equal sugar quantities to all bakery products won't hurt the national baking organizations, which also market cakes, cookies, and other bakery products.

Spud Compromise

WFA and OPA agree on a combined system of loans and support prices to guarantee an even flow to the consumer.

The on-again-off-again government buy-sell program to reduce consumer prices—and hence the cost-of-living index—is momentarily on again for one important commodity: Irish potatoes. War Food Administration and OPA have resolved their innumerable squabbles via a compromise which, unless it is upset later on, will guarantee an even flow of spuds to the consumer at fairly cheap prices.

• **Industrial Use Challenged**—There never has been any question that the government would have to buy a lot of potatoes this year (BW—Aug. 21'41 p20) to support farm prices. The big point of disagreement, however, was what to do with the government-owned stuff. WFA wanted to shunt the potatoes into manufacturing processes

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uch as starch) so that the potatoes
ouldn't spoil and so that the purchase
rogram would stay as limited as possi-
ble. OPA, on the other hand, wanted
WFA to dump government holdings in
consumer channels to whack down
prices, even though this might mean
stiffer government spending and bigger
amounts of spoilage.

The compromise, as finally worked
out, hinges on government loans to
farmers and middlemen. In effect, the
government will pay growers for their
crops in advance. Having pocketed the
cash, the growers (as well as dealers)
can afford to store the potatoes, and
not market them in disorderly fashion.
This will prevent spoilage and keep
WFA from getting jittery over possible
newspaper headlines and congressional
attacks.

Will Prevent Hoarding—On the face
of things, the loan system could mean
a sharp rise in consumer prices, because
farmers could hold their spuds until
prices zoomed. But WFA has assured
OPA that no such thing will happen.
Here is how WFA says it will avert
that possibility:

(1) WFA will call potato loans, thus
forcing farmers to sell their stocks in
order to meet payments, any time mar-
ket supplies dwindle.

(2) At judicious intervals, WFA can
call its loans so fast that prices will sag.
In that event, however, the farmers need
not pay back the face value of the loan,
for the loan is also a minimum price
guarantee.

(3) Only lower grades of potatoes will
be diverted into manufacturing chan-
nels, meaning the consumer supply will
be big enough to insure cheap prices
until the 1944 crop comes in.

Supply Will Stretch—By and large,
this program means that potato prices
this fall will not be as low as if the gov-
ernment had willfully dumped the crop.
On the other hand, the supply will last
longer, insuring fair prices during the
short season in winter and spring.

Whether this combined system of
loans and support prices will be ex-
tended to other commodities is still a
matter of debate. It seems likely, how-
ever, that the bumper sweet potato crop
will be treated likewise, as well as
apples and onions. Speculation is that
a modification of the loan-support sys-
tem could be adapted to wheat, corn,
eggs, and fruits.

Another Rollback?—Now that OPA
can't force a sudden dip in the cost of
living by a sudden drop in potato
prices (but can only gain its increment
unspectacularly over the long haul), talk
is being revived of another rollback.
Congress has allowed OPA three roll-
back programs, but only two—meat and
butter—are in effect. OPA has not de-
cided what the third one will be, though
coffee and certain canned foods are
cropping up in the discussions.

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Push for Penicillin

Need for miracle drug is so great that many in capital advocate forcing producers to share scientific information.

Penicillin, miracle drug, has moved from the clinic, laboratory, and pilot plant into actual commercial production in recent weeks. This movement has brought with it the question of what the government should do to boost production to the heroic proportions needed to meet fantastic military and civilian requirements in the shortest space of time.

• **OSRD in Charge**—Because it has jurisdiction over wartime production of all medicinals, the Drug Section of WPB's Chemicals Division is now wrestling with the problem. Until recently, the government's main activity in the penicillin field was centered around Dr. A. N. Richards, head of the Medical Division of the Office of Scientific Research & Development. This is the government agency created by President Roosevelt in 1941 to oversee and finance scientific research into all types of war problems ranging from radar to drugs.

Dr. Richards' main job was to find out what the drug is and what it can do. Because it is the result of a mold growth on grain and other agricultural products, the early research on penicillin in the

United States was handled by the Dept. of Agriculture's Peoria (Ill.) research station. OSRD coordinated the department's work with that being done by universities and private pharmaceutical and chemical companies. OSRD's clinical investigation was handled by the Army, special hospitals under contract, and the interested private companies.

• **General Enthusiasm**—Penicillin research had developed to the point where Dr. Richards was able to render a report in the authoritative *Journal of the American Medical Assn.* (BW—Jun. 5'43, p52). OSRD and the Army decided that the drug would exceed the early promises of its most enthusiastic supporters.

In addition to handling cases of pneumonia and gonorrhea which had hitherto been resistant to the sulfa drugs, Dr. Richards confirmed that penicillin would take care of staphylococcal and streptococcal infections previously considered fatal. This is particularly important because many of these infections are encountered in war casualties.

• **Allocations Begun**—By the middle of July, WPB stepped in to take over the production side of the penicillin job, issuing an allocation order placing the distribution of every ounce of the drug under strict government control. Only seven companies had sufficient production to warrant formal WPB allocations: Squibb, Merck, Reichel Laboratories (a subsidiary of American Home Products), Pfizer, Winthrop, Abbott, and Upjohn.

Under the allocation program, WPB

approves distribution of the drug to the Army, U. S. Public Health Service, and OSRD, the last named representing the civilian allotment. OSRD's allocation is turned over to Dr. Chester S. Keefer of the Evans Memorial Hospital, Boston, where its distribution and use in civilian cases is controlled by a National Research Council Committee.

• **Complete Records Kept**—Civilian patients do not have to pay for the drug but before they can get it, their doctor must report the case in full to Dr. Keefer or his assistants in the field. All requests are studied to determine the patient's chances of recovery and the contribution to scientific knowledge that would develop from use of penicillin under the circumstances. When penicillin is granted for civilian use, the doctor using it must keep complete clinical records to become a part of the medical literature on the drug.

Total amounts of penicillin manufactured or allocated are considered military secrets, but Maj. Gen. Norman T. Kirk, Surgeon General of the Army, has characterized production capacity as "very small." Gen. Kirk's comments indicate that the total amount produced is sufficient to treat only a few hundred cases a week. The Army gets half, which is far short of its current needs and only a patch compared to anticipated need after the second front is opened.

• **Others Are Interested**—Virtually all major manufacturing chemists and pharmaceutical houses have indicated an interest in penicillin. In addition to the



BREWERS' BIG HORSES

Of all the gas and tire saving conversions to horse-drawn deliveries, the brewing industry's is probably the most picturesque. Dozens of brewers are now serving local routes with wagons and husky Percherons and Bel-

gians which long were the nostalgic symbol of beer itself. Typical of converting firms which have resurrected scarce harness and rigs are Schlitz of Milwaukee and Brooklyn's F. & M. Schaefer Brewing Co. Schlitz trotted out horses almost a year ago and now has about 80 teams capable of han-

dling the three- to five-ton average load of a truck. Last month, Schaefer began using 200 hay-burners to power 74 wagons covering New York City routes. Although its delivery costs are much higher behind horses, Schaefer reports a daily saving of 225 gal. of gas and 100 of its fleet of 374 trucks.

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Back the Attack — with War Bonds

World's Ferry

Not long ago one of Pan American Airways' Boeing Clippers crossed the Atlantic twice in one 24-hour period.

Shortly before that, these same Clipper ships flew the Atlantic 12 times in 13 days and 15 hours.

President Roosevelt, on his historic flight to Casablanca, crossed the ocean both ways in Boeing Clippers. Winston Churchill, on every one of his aerial trips to America, traveled in Boeing-built planes of British Overseas Airways.

These are the high-lights. But perhaps the most remarkable thing about

these Boeing flying boats, largest commercial planes in the world, is the way they have come to be taken for granted.

Crossing the Atlantic is no novelty to them; they have done it more than 1400 times! In fact, from the beginning of regular flight schedules between this country and Europe four years ago, the transatlantic service has been maintained almost entirely by airplanes designed and built by Boeing. These transoceanic Clippers have flown more than 7,000,000 miles, and have carried more than 44,000 passengers and 100,000,000 pieces of mail.

Today these huge ships, designed as peacetime luxury liners, are completing vital missions of war . . . shuttling across the oceans of the world with the monotonous regularity of ferry boats!

Behind their dependability of performance stand research, design, engineering and manufacturing skills of high degree, the same skills which have given America the Boeing Stratoliner,* the Boeing Flying Fortress,* and the Boeing Kaydet Primary Trainer.

Tomorrow as well as today you can look for integrity in any Boeing product . . . if it's "Built by Boeing" it's bound to be good.

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Under the pressure of rapid fire, three-shift production, machinery is wearing away many times faster than normal. Thousands of essential moving parts go out of service daily.

Metallizing, however, has become the magic word for revitalizing "laid up" machinery, restoring service quickly, saving countless tons of metal, hours of machining and assembly — and avoiding overburdened replacement costs as well.

In this service of salvage, Keystone wire is performing a basic wartime function — another important reason why Keystone production for civilian uses must be restricted until Victory is assured.



Above—Here a badly worn crankshaft is built up with the metallizing gun for machining back to original dimensions. Wire enters the back of the gun and is sprayed through the nozzle in molten form onto the worn surfaces. One of thousands of wartime uses for wire mill production.

The most critical raw material is still SCRAP. Get every pound to the steel mills.

KEYSTONE STEEL & WIRE CO.



**PEORIA
ILLINOIS**

seven whose production capacity is large enough to warrant formal allocation. The following are working on the deal: Lederle, Lilly, Cutter Laboratories, Commercial Solvents, and Cheplin Laboratories (subsidiary of Bristol-Myers).

In addition, factors outside of the drug and chemical field also have undertaken work on penicillin production, among them Schenley Research Institute and Anheuser-Busch.

● **Ambitious Start**—Although it has not yet gone into production, Commercial Solvents probably will end up with the largest capacity if a new method it is working on turns out to be a success. The company is building a new plant in Indiana—one that has been described as the largest in the country.

Pfizer, important in fermentation chemistry by virtue of its normal antibiotic acid operations, has increased its facilities in recent weeks and has placed a new recovery plant in operation. Squibb, Merck, and Winthrop, who were among



ICKES' NEW HELPER

Recent appointment of Stewart Coleman to the Petroleum Administration for War portends tighter concentration of government control over foreign and domestic oil policy and declining power for the Petroleum Industry War Council. Oil men fear that Coleman, as director of PAW's new program division, will absorb many of the council's advisory and fact-finding functions. His division is a planning body responsible for foreign and domestic oil distribution and supply questions. He takes to PAW 23 years of oil experience, the last 10 of them with Standard Oil.

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Prospects for Synthesis—Development of synthetic production, of course, would

For over a month, Army quarters have been pushing WPB for the appointment of one man to centralize all WPB penicillin production activities. While the job is now being handled by Fred Stock, head of WPB's Drug Section, Army men contend that it is so big it should have the undivided attention of one man. Appointment of a man to take over this job is anticipated in the near future.

Anyone Welcome—In the meantime, WPB's Chemicals Division has won a top priority rating for new penicillin plant construction and facilities. Almost any company which can convince WPB that it is has something on the ball can get good priorities.

When penicillin production is centralized in the hands of one man, he will have to settle a number of difficult and delicate problems. First question will be the extent to which the government should force the exchange of production information and secrets among the various companies in the field. On the one hand, there is the argument that the first company to produce pen-

the early producers, also have increased plant space, while Cutter Laboratories has secured Defense Plant Corp. approval for a \$600,000 project to be located at Berkeley, Calif.

Tedious and Ticklish—Because penicillin is produced by the action of a mold on suitable growing material, its production is as difficult as the drug is therapeutically efficient. It takes a long time and a lot of tedious work to get the mold to develop a batch of the original basic material; this material must then be carefully refined and passed through a number of ticklish processes to produce the pure powder which is mixed with distilled water to be administered by injection. Every batch must be closely tested.

Experts say that penicillin poses every known problem in the drug production field. Production of the basic material is very slow despite intensive research in the development of new and better strains of the penicillin bacteria. Batches of raw material are sometimes lost when something goes wrong in the refining process. Moving through uncharted territory, it is difficult for pharmaceutical chemists to hunt for shortcuts.

Prospects for Synthesis—Development of synthetic production, of course, would save a lot of time and effort, but government men are going on the theory that synthetic penicillin will not be available until after the war. In the first place, the pure substance—the active principle—must be isolated; then the chemical structure of the isolated active principle must be reconstructed; and then production chemists must learn to develop this chemical structure via plant processes. As yet, no formal announcement has been made as to the isolation of the active principle of the drug.

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Speedi-Dri is a unique, granular oil- and grease-absorbent for all kinds of floors. It cuts down the lost hours of irreplaceable working time by reducing falls and accidents to a minimum. By providing an immediate non-skid surface, Speedi-Dri allows employees to work faster and more confidently. It actually draws old stains and oil deposits out of steel, wood, and concrete floors, making expensive scrubbing quite unnecessary. Speedi-Dri costs less per square foot of floor kept clean than any other satisfactory method or product now in use.

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How a drop of water may help the Axis

THE amount of moisture in the air in an optical shop may determine whether an Axis ship is sunk or whether it eludes an American warship. One single drop may prevent the destruction of an enemy vessel.

The abrasive used to grind the delicate lenses of naval range finders soaks up moisture like a sponge. If the air in the optical shop is too humid, the abrasive becomes a saboteur. It unites with moisture to scratch, distort, and ruin the lens. A hairline off balance may mean a miss of a quarter mile.

Inspection weeds out most of the faulty pieces, but dry air is the best inspector. It prevents rejects and steps up all-important production.

Naval requirements set 30% relative humidity as a moisture ceiling. Skilled Trane Air Engineers have translated these requirements into weather battle plans, from which have been produced Trane Air Conditioning Equipment to exactly meet the requirements of the job.

By training on our enemies the guns of our ally, the weather, the drop of water that might prevent a perfect aim is safely disposed of in the drain pan of a Trane Climate Changer.



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icillin in large quantities will win much prestige and gain such head in the pharmaceutical field that the thing the government can do is to get out of the competitive battle.

• **Needs May Govern**—Yet the need is so great—the price of delay in terms of military and civilian suffering so enormous—that the government can't sit idly by and watch one company take months to learn what another company already knows. Those who favor a change of production information, this is particularly true when the government is giving up scarce materials freely to assist in building production capacity.

Fast One by CCC

Purchase of oil meals at old ceiling and resale by agency at new tops—one-third higher—bring howls from farmers.

Farmers howled when OPA upped the prices of oil meals (they said the costs of producing meats, milk, and eggs already were excessive); processors of vegetable oils swelled the complaint when the War Food Administration ordered remaining stocks of meal from the 1942 crop set aside for sale to the Commodity Credit Corp. Processors sold CCC at the old ceiling, but the meal is to be sold for CCC account at the new ceilings—33 1/3% up from the old.

• **Official Explanation**—OPA's reply that prices of meal had been too low in relation to prices of feed grains, and that these low prices were really the cause of all the woes of livestock producers who couldn't get all the meal they wanted last winter. Whereas prices of feed grains had gone up 40% between October, 1942, and July, 1943, the prices of oil meal had gone up only 5%.

So, with meal on the bargain counter, the demand for it was greater than the supply and a lot of meal had been wasted through inefficient use, chorused OPA and CCC. Considerable meal which should have gone into cows and hens went into hogs and beef cattle instead, they added.

• **Supply Falls Short**—CCC contracted with oil producers last September for prices of meal at levels deemed necessary to move an expected record production of 7,000,000 tons in 1942-43. Officials really thought there would be so much meal that some of it would have to be sold for fertilizer. Production reached only 6,000,000 tons. This was a big pile but fell short of the demand and the CCC issued, reissued, and amended orders, limitations, restrictions and directives all season trying to spread out the supply.

Officials admit that higher prices



Excalibur

*"There likewise I beheld Excalibur
Before him at his crowning borne, the sword
That rose from out the bosom of the lake,"—*

IDYLLS OF THE KING — Tennyson

It was by Magic that King Arthur received Excalibur, the gleaming sword that symbolized victory over his enemies.

By processes as mysterious to the layman as Merlin's Magic, the Rustless Iron and Steel Corporation is helping to forge another shining weapon for America. That weapon is Stainless Steel.

Because of its exceptional properties of high tensile strength and resistance to corrosion by heat, acid, and rust, Stainless Steel has long since become a "must" in the production of essential war equipment, such as chemicals, explosives, synthetic rubber, aircraft, warships and motorized units.

Serving and Conserving

RUSTLESS, devoted entirely to manufacturing high quality Stainless Steel, is doing two important war jobs:

First, *Serving the Nation* by producing more Stainless Steel than any other plant in the country. Day and night its employees are making certain that Uncle Sam gets all the Stainless Steel he needs.

Second, *Conserving Strategic Materials* . . . The unique RUSTLESS Processes in the manufacture of Stainless save great quantities of two critical metals—Chromium and Electrolytic Nickel—which are not only essential for the manufacture of Stainless Steel, but also for many other war requirements. By certain discoveries, RUSTLESS has found ways to achieve equal results through the use of ores charged direct into the furnace and by the recovery of Stainless Steel scrap, supplies of which are plentiful.

Therefore, to this twofold duty—*Serving and Conserving*—RUSTLESS has dedicated its highly specialized organization for both the winning of the war and the peace to follow.

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CORROSION AND HEAT-RESISTING
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RUSTLESS IRON AND STEEL CORPORATION
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BUY MORE WAR BONDS



meal at the outset would have accomplished a much better job of allocation. But nothing was done price-wise until the end of July, after most of the 6,000,000 tons had been converted into hog fat and other animal products.

● **Bungling Charged**—Some say that the low pricing of meal was a \$28,000,000 bungle, for this was the amount of government subsidy on the 1942 buy-sell, rollback, transport-oilseeds-to-the-south program.

Then OPA took the pig by the tail and put meal prices up with the feed grains. Simultaneously, CCC issued the set-aside order with explanation that this was to put all processors and consumers on the same price level, that it would be impossible to administer a two-price system, that it would prevent some mills' charging higher prices on new crop meal while other mills would be forced to sell at the old ceilings.

● **Can't Win for Losing**—"Why should processors get the windfall?" the officials reasoned. The processors had agreed to sell at the lower prices. The only goat was Uncle Sam, stuck \$28,000,000 through June 30, only a small part of which would be offset by the windfall to CCC.



Here to Stay

Grand Rapids experiment in industrial cooperation is a hit, and furniture men plan to keep it alive after the war.

After a shaky start, Grand Rapids Industries, Inc., is rolling at cruising speed. That's big, welcome news for the Michigan furniture city; it may have implications for industry at large, too, for it is probably the most advanced venture in cooperative manufacturing effort developed out of the war.

● **Distributes Contracts**—Grand Rapids Industries is not a pool. It is an association of companies, exercising manufacturing rights over its 15 component members. G.R.I., as a corporate body, seeks contracts and signs them. Work is then assigned by G.R.I. officials to member plants best suited to undertake it. There have been a few kicks from companies which felt they were slighted—but not enough, and none loud enough, to cause serious worry.

Prime contractors supply member

HIGH FLYER

Packard is putting the war on a higher plane—two miles higher—with the new Rolls-Royce engine it is producing for North American's P-51 Mustang (below). Feature of the power plant is a two-speed, two-stage supercharger which twice compresses the thin air of high altitudes to a density necessary for efficient combustion (BW—Dec.19'42,p79). Fitting impellers into the twin rotors which power the supercharger is a precision job (left). The delicately machined aluminum is heated prior to assembly on the splined shaft to assure an exact fit when cool; hence the gloves.

companies with machinery and materials required through Grand Rapids Industries, and the companies G.R.I. for fixed overhead and labor costs as goods are turned out. G.R.I. turn bills the prime contractors for cost plus a profit (rate of markup has been revealed) and holds out a "return" on the \$97,500 of paid-in capital contributed originally by the member companies. The rest of the receipts go to members to pay their bills rendered to G.R.I. and to give them profit.

● **Receivables Factored**—Financing of production, which totaled about \$500,000,000, is accomplished through a commercial factoring house which advances money on receivables.

The objectives were simple: maintenance on a profitable basis of the separate establishments, and maintenance, too, of those companies' skilled woodworkers who, if laid off, might never have been recovered.

● **Subassemblies Produced**—G.R.I. was in poor position at the end of last year (BW—Dec.19'42,p46). The glider program on which it had banked so ambitiously had crumbled. This summer, however, glider business picked up; and it is still good today, evidently as a result of successful use in Sicily. G.R.I. is producing complete glider wings, floor-board parts, and other assemblies.

Wooden parts also are being made for powered aircraft. Another sizable item of manufacture is precision boxes of the kind the services need in huge quantity to transport delicate equipment, volume goods, etc. Some furniture is being made, although volume is probably no more than 25% of normal.

● **Sticking to Aircraft**—More dramatic than these woodworking contracts has been the acquisition by G.R.I. of the Skyfarer plane (BW—Jul.10'43,p19). This, however, is mainly a postwar proposition. The associated companies, having had a taste of aircraft production, want to stay in it after the war.

Mass production has been foreign to Grand Rapids in the past, each company operating in a small and distinct way. The cooperative effort put an end to much of that. G.R.I. may function after the war to seek volume contracts for prefabricated housing.

● **One for All**—The idea of industrial cooperation is gaining adherents in Grand Rapids. Late in August, the Association of Commerce set up a new coordinating division whose aim is to get for the city any business which pokes a tentative nose in that direction.

The plan, indorsed by leading Grand Rapids companies, proposes that when any company in the city receives an invitation to bid on a job but is unable to qualify, it will turn over the offer to the coordinating division. The coordinator's office will survey other plants and put them in touch with the work.

Too Many Riders

Use of transit facilities is up 75% since the war began; trolley and bus men seek relief in staggered hours.

U. S. trolley and bus lines are staggering under the heaviest loads they have ever known, and there is no prospect of relief. Before the war, patrons paid an average of 34 million passenger fares a day to local transit facilities. Last year, with the first movement of private autos away from the highways, the average shot up to 50 million. Today, buses and trolleys are hauling 60 million passengers a day, an increase of 75% over peacetime normal, and the number still is climbing.

Passengers' Fortitude—How they're coping to meet the additional traffic load of school children—three to four million a day—when classes resume this month—is a problem that baffles veteran transit men. The only factor they can see that will help them take it in stride is their patrons' willingness to accept crowding and other inconvenience as a byproduct of war.

Western transit companies are waiting with some apprehension for the effect of reductions in gasoline rations on the further retirement of private automobiles. With all the extra load now in sight, they expect that by mid-October they will be hauling 65 million passengers a day.

Few Extra Vehicles—Throughout the progressive increases in traffic since Pearl Harbor (BW—May 29 '43, p106), the trolley and bus companies have been able to add less than 20% to their rolling stock. Without additional equipment, they see small likelihood of meeting the fresh demands unless public and industrial authorities get together on some

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*AFTER VICTORY

THICK, "pea-soupy" fog—probably the sea's greatest hazard—is fast being doomed as a menace through precision-built RADAR—an electronic device that instantly warns of the presence of nearby ships or other dangerous objects. And it is in delicate, sensitive instruments like this that precision parts will play their most important role in postwar times.

Today, as we produce precision parts for scores of vital war products, the demands upon our ingenuity and

productive skills have led us to the point where we are able to turn out close tolerance parts from all alloys on a low-cost mass production basis.

This, plus our extensive facilities and trained personnel, we believe can be of value to manufacturers planning to produce precision products in the days when the peace has been won.

(Below) A few of the many thousands of our precision-made parts that are helping bring Victory closer, and which will help mould our world of tomorrow.

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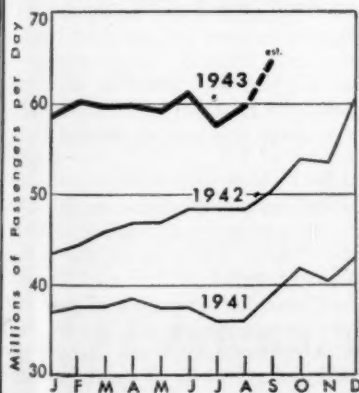
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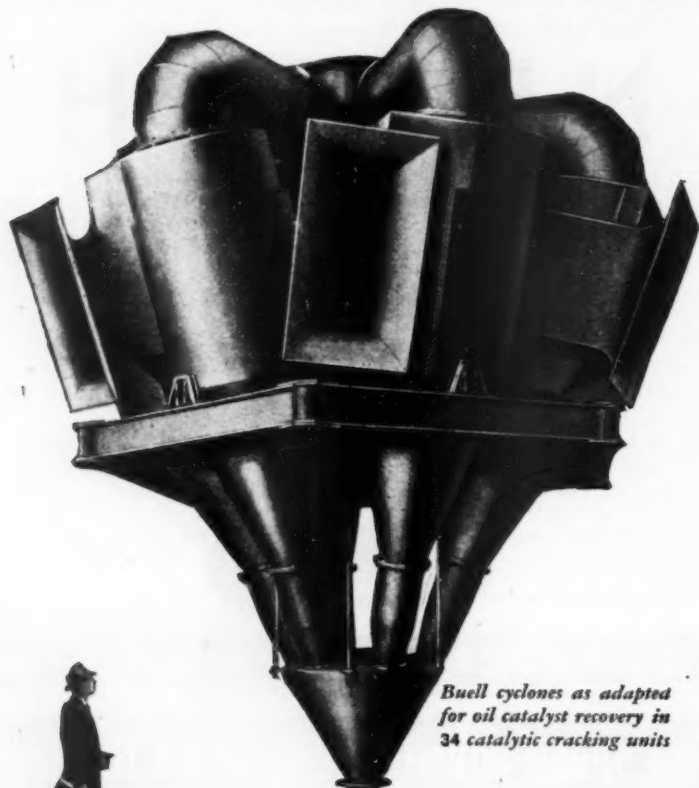
Number of local bus and street-car passengers at all-time high



Date: American Transit Assn.

© BUSINESS WEEK

Aide-de-Camp to a "CAT CRACKER"



Buell cyclones as adapted
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Buell Dust Recovery Systems help make 100-octane gas...

"CAT CRACKER" is the oil industry's nickname for the new catalytic cracking processes now producing high-octane gas—processes calling for the highest efficiency in the recovery of catalyst dust. It is significant that so many leading oil companies have chosen Buell (van Tongeren) Dust Recovery Systems for this important work.

The remarkable natural and synthetic catalysts used are both expensive and abrasive. Buell equipment (incorporating the exclusive van Tongeren "shave-off") pays for itself many times over in the recovery of the costly, finely divided catalyst. And Buell's large-diameter, extra-heavy metal cyclones eliminate clogging and reduce abrasive wear—for long life and continuous performance.

Here, as in so many other fields, Buell leadership has again demonstrated its ability to solve difficult dust recovery problems.

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Write for Bulletin G-842, describing Buell equipment
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BUY WAR BONDS AND MAKE THE AXIS BITE THE DUST

plan for staggering working and school hours.

The Office of Defense Transportation last year urged revision of work schedules to spread peak loads over a greater number of hours, but the suggestion received little sympathetic response in large cities other than Philadelphia. Staggering of hours there cut the maximum half-hour demand for transit service from 43,000 to 34,700, a reduction of almost 20%.

• **Little Ride-Share Relief**—Despite the development of share-the-ride groups in specific industrial plants, transit companies have enjoyed little noticeable benefit from such cooperative effort. In Chicago, where a continuing check has maintained the average number of passengers per auto has only been increased from 1.76 to 2.62.

Increasing liberality of local rationing boards with allotments of extra gasoline coupons has tended to offset some of the effect of group-riding. A recent rush hour check in an eastern industrial city showed an average of less than two passengers in each car carrying a B or C sticker on the windshield.

Hunters Set Back

Farmers will get first call on ammunition this fall so they may kill predatory game; what is left goes to sportsmen.

More ammunition for farmers and ranchers, pestered by predatory animals and birds, has been granted by WPB to protect crops and livestock and to increase the food supply. They can draw a special quota this fall of 50 rounds of .22-caliber rim-fire cartridges, 20 rounds of center-fire rifle ammunition, and 25 of shotgun shells of any gauge. This is in addition to their regular quarterly quota of 100 rounds of .22-caliber, 40 of center-fire, and 25 shotgun shells.

• **Sportsmen Come Second**—Sportsmen will be allowed 50 rounds of .22-caliber, 20 rounds of center-fire, and 25 shotgun shells after Oct. 1 and before Nov. 15, providing farmers and ranchers have already been satisfied. Tight transportation and the buck fever of many city hunters are expected to keep down the bag of game this year, compared to last year's kill of 141,361,162 units of game and fowl which would amount to 250,000,000 pounds of edible meat if the kills were properly dressed. Moreover, many hunters are now in the service after bigger game.

In Colorado, the supply of special licenses permitting hunting of cow elk is completely exhausted; cow elk are easy to kill and offer lots of meat but little sport. Less interest has been shown in licenses for doe deer which carry less

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1943



If Nazis were penguins...

IMAGINE ARMIES of penguins goose-stepping all over the South Pole! Heil, Pengler!

But penguins aren't birds of prey. They're just simple fishermen. They'd never yearn for other people's territory. Even if they enjoyed goose-stepping, they'd confine their marching to the Antarctic.

Suppose the situation were reversed. What if penguins were Nazis? They'd certainly become dissatisfied with the South Pole. They'd start "protecting" their neighbors. And after a few peace overtures, they'd attempt a Polar blitzkrieg!

The moral? Just this: You can't make a plunderer out of a penguin, and you can't make a nobleman out of a Nazi. So long as there are Nazis in the world, men cannot be sure of being free.

That's why we must war to the death against the Nazis. In doing so, we must lean heavily on our machine tool industry. We can lean with confidence. This miracle-making industry has overcome Germany's 7-year head start in about a year. And today, for every one machine tool produced by the Nazis, we are producing 5!

A potent factor in this production miracle has been the Multiple Spindle Automatic Lathe made by Cone. These production titans of the machine tool industry are currently used in the production of parts for guns, tanks and planes.

Remember that name—Cone Multiple Spindle Automatic Lathe. It will continue to make history after victory is won!

CONE Automatic Machine Company, Inc., Windsor, Vermont



Scene from *Eddie the Eagle* with Abbott and Costello. A Universal feature now available through the Bell & Howell Filmosound Library for churches, schools, USO, clubs, private homes, and other approved non-theatrical locations.

Eddie's on a ONE HOUR furlough

He's almost forgotten cramped, sweating hours inside the turret of his General Sherman . . . the ever-present pang of homesickness isn't *quite* so sharp when he can *laugh* . . . and he's laughing *now*, as the Filmosound pours out the fun and glamour of a Hollywood feature. He's *laughing*.

And Eddie's officers know the value of a soldier's laugh . . . and the worth of movies to provoke that laughter. That's why Filmosound Projectors are close to fighting men on almost every battle front . . . and in the Navy's fighting ships.

*Opti-onics is the combined sciences of Optics and Electronics. Related and simultaneous research and engineering by Bell & Howell in these and in the mechanical sciences are giving important advantages to our fighting forces. Opti-onics will bring many new things to American living, after the war.



*Trade-mark registered

And back home in Army camps and Naval bases, untrained men study actual battle movies made with Filmo cameras. Movies teach millions how to outsmart and outfight a wily enemy . . . movies show the road to Victory.

This, then, is the single task of Bell & Howell . . . to produce the Filmo motion picture equipment and the special sighting devices that will in turn produce a war-smart, hard-hitting fighting force. And *every lesser job* will have to *wait*!

Support the Third War Loan — Buy More War Bonds

Filmo

Bell & Howell Company, Chicago; New York; Hollywood; Washington, D. C.; London. Est. 1907.



Products combining the sciences of
OPTics • electRONics • mechanICS

PRECISION-MADE BY

Bell and Howell

meat or for the more elusive buck and buck deer.

● **Hides in Demand**—WPB hopes the fat and also hides for military glory and hunters will be advised as to how to conserve them. (There also will be instructions about turning in empty cartridges.) Stocks of hides in the hands of taxidermists, including many sent to sportsmen to be mounted, frozen in spring, were recently unfrozen, partly because many had deteriorated pretty badly.

The total quantity of ammunition to be released under last week's supplemental limitation order, L-286-a, will be 82,250,000 shotgun shells, 12,000,000 rounds of center-fire ammunition, and an as yet undetermined quantity of .22 caliber cartridges. This is a small part of the country's total manufacture and will not disturb military requirements.

No Turkey at All

Unless you raise your own, you'll have to do without until October now that sale of storage birds has been halted.

For seven weeks, the country has been on a frozen turkey binge, consuming from 500,000 lb. to 600,000 lb. a week until the 8,000,000 lb. in storage fell to 3,500,000 lb. The reason: The Dept. of Agriculture had ordered that sale of fresh-killed turkeys, effective Aug. 2, be limited to the Army, thus stimulating demand for storage birds. The department halted the spree Aug. 21. Until October, civilians will have to do without turkey, unless they raise their own.

● **A Policing Measure**—An Army regulation that requires 25 ounces of turkey per man on Thanksgiving and Christmas menus is causing the Quartermaster to buy 10,000,000 lb. for which prices ranging from 40¢ to 44¢ are being paid. Agriculture didn't mind the civilian turkey binge because most storage turkeys are big ones, over 20 lb. apiece, too big for the Army whose cooks haven't time to roast birds that would take five hours in the oven. Stopping all sales of storage birds to civilians was to simplify policing of the previous order.

There'll be plenty of birds for civilians during the holidays. Texas, Minnesota, and California—the three leading states in turkey production—are growing about 10,000,000 lb., and other states will probably add 25,000,000 lb. Commercial growing has moved forward swiftly in the past ten years.

● **Hens Are Tenderer**—The Army will take birds weighing up to 18 lb. and, like any other buyer, considers a heavy turkey tenderer than a tom. Main varieties are Bourbon red, bronze, Narragansett, and Holland White. Current



We Have Things Up Our Sleeve

Here is the first of the new things—the new miniature Micro Switch—popularly accepted by our customers as the Micro Peanut Switch—smaller in size... bigger in performance... as new as tomorrow, and ready for today.

Each day we are finding new ways to do old jobs better and new jobs to be done, and new products requiring a great range of characteristics, more compact construction, and smaller size.

Now we have the new Micro Peanut Switch, with the same principle of operation, the same ruggedness, long life and dependability which have always been associated with all switches bearing the trademark MICRO SWITCH.

The Micro Peanut Switch measures only $1\frac{3}{4}'' \times \frac{5}{8}'' \times \frac{1}{4}''$, weighs only .019 lbs. It is less than half the cubic volume and one-third of the weight of the basic Micro Switch. On many loads it out-performs our basic switch, particularly at high altitudes. There is no contact welding after long operation on 28.5 volts d.c. lamploads when current inrush is as much as 85 amperes.

It can be supplied in many variations, with solder lugs or screw terminals. Bakelite cover and threaded mounting stem available. It is the huskiest of all the small switches not requiring high precision.

The Micro Peanut Switch is one more example of the versatility of our engineers in designing switches to meet changing conditions and the forthcoming demands of new products. Data will be sent upon request.

The trademark MICRO SWITCH is our property and identifies switches made by Micro Switch Corporation.

Micro Switch Corporation, Freeport, Illinois

Branches: 43 E. Ohio St., Chicago • 11 Park Place, New York City
Sales and Engineering Offices: Boston • Hartford • Los Angeles



If you manufacture a product which involves precise control, we will be glad to send your engineers as many copies of our Handbook-Catalogs as you may desire.

© 1943

MICRO SWITCH

Made Only By Micro Switch Corporation... Freeport, Illinois

Business Week • September 4, 1943

UNRETOUCHED
PHOTO OF THE
THIN-GLUE-LINE

**FRANKLIN'S
THIN GLUE LINE
HAS
UNSEEN
STRENGTH**

Tests prove 100% wood failure with Franklin Liquid Hide Glue. It's **THIN** glue **LINE** is almost invisible with carefully-matched wood grains.

The **THIN** glue **LINE** is easy on tools, economical, cleaner. No heating, mixing, unpleasant odor or messy glue room. Used right out of the drum. The standard of hundreds of leading woodworking plants.

**THE FRANKLIN GLUE CO.
COLUMBUS, OHIO**

"Every Drop Works"

FRANKLIN

Liquid Hide GLUE
FOR ALL WOOD GLUING



One "gold-bricking"

Guard or Watchman can cause death and destruction in a war plant. Play safe. A **DETEX** Watchclock proves the worth of a faithful watchman, quickly exposes a negligent one. Investigate **DETEX** today.



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WATCHMENS CLOCKS

NEWMAN * ECO * ALERT * PATROL

CALIFORNIA CORK

At Napa, Calif., one of the nation's comparatively rare mature cork oak trees is carefully stripped by the University of California's forester, Woodbridge Metcalf (left), and George

Army purchases will go overseas for soldiers, sailors, and marines. Some will be canned for units without refrigeration facilities, and the Army can draw on storage stocks for canning. The uniformed services in the U. S. will get their holiday turkeys by buying in competition with civilians.

Growers haven't been eager to sell to the Army because they make more money if they feed the birds until they are big. But growers have had some trouble getting feeds with sufficient protein in them and have been experimenting with soybean mixtures.

GLYCERIN IS STILL TIGHT

Commodity Credit Corp.'s offer to sell over 2,000,000 lb. of crude soap lye and almost 2,000,000 lb. of dynamite glycerin doesn't mean that the glycerin supply has eased. It merely means that CCC wants to transfer the insignificant government stockpile into the hands of glycerin producers who already are carrying the burden of the nation's emergency inventory.

Since March, use of glycerin in cigarettes, cosmetics, toothpastes, foods, and other products has been banned while its use in drugs has been sharply curtailed. According to Government men, this sharp limitation has just brought production (including imports) and essential war consumption into balance. There will be no major liberalization of end-use restrictions.

Geenan of Crown Cork & Seal Co.

The half ton of bark will be used in experiments with domestic cork (Bull. —Nov. 7 '42, p. 78). The U. S. always depended on imports, largely from the Mediterranean, because of the tedious cultivation and cheap labor required.

MIDDLEMAN SQUEEZED

Congressional criticism of the Clatsop County (Wash.) Public Utility District for "sitting between two federal agencies and collecting \$50,000 a year for rendering absolutely no service" began last week when the Federal Power Commission approved a renegotiated contract between the P.U.D. and the Federal Public Housing Authority for service to the latter's huge housing project at Vancouver, Wash., which serves 40,000 workers in Henry Kaiser's Portland area shipyards.

Under the new contract, reduction totaling \$41,800 will be taken from P.U.D.'s collections. The P.U.D., which had owned no facilities, bought from FPHA about 26,850 ft. of transmission circuits between the substation of the Bonneville Power Authority and part of the project. Henceforth, the P.U.D. will sell energy to FPHA at the same rate it pays Bonneville for the power. In addition, the P.U.D. will collect a 6% return on an investment approximating \$39,500, \$4,000 yearly in amortization charges, \$1,500 yearly for operation, maintenance, and insurance on its lines, \$3,800 yearly for general and administrative expenses, and 5% yearly on the cost of the facilities for taxes. Best guess is that the contract will cost FPHA about \$1,100 a month over the cost of its power, which is estimated to reach 10,000 kw. to 12,000 kw. when the project is complete late this fall.

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PHOTO BY U. S. ARMY SIGNAL CORPS

FIRED BY A FACTORY WHISTLE!

At home, far away from the fields of battle, a factory whistle blows. It signals the start of another shift of war workers. They are the men out of uniform who apply their skill and training to the production of war weapons and materials.

These war arsenals are scattered through every state, hundreds of them, hard at work making the millions of bits and pieces that will be assembled at other hundreds of war plants.

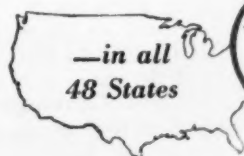
Such vital operations call for qual-

ity cutting coolants and lubricants . . . specialized oils for *turning*, for *drilling*, for *planing*, for *milling* and for *grinding*.

Texaco meets this urgent demand no matter where the war plants are located by distributing quality lubricants from its more than 2300 wholesale supply points.

And—to increase plant production through proper use and full economy of Texaco petroleum products—skilled Texaco engineers stand ready to serve, anywhere.

THE TEXAS COMPANY



THE WAR—AND BUSINESS ABROAD

Hitler's Defenses Tremble

Uprisings in Denmark and tenseness of relations with Sweden complicate Nazis' job of holding Festung Europa against armies of Russia and mounting British-American air attacks.

Another wall of Hitler's fortress Europe has weakened. Denmark, quickly overrun in 1940, suddenly erupted last week. Rioting broke out in the cities, and, after a clash with German troops, part of the navy was scuttled in Copenhagen harbor, and the remainder fled to internment in Sweden. German tanks and troops moved into Copenhagen, and martial law descended overnight.

• **Not a Planned Retreat**—In Russia, from Murmansk to Taganrog, the "invincible" Wehrmacht was in trouble as one after another strong point crumbled. The withdrawal under pressure was not yet fast enough to be an intentional retreat to new lines.

Italy continued to be the target of Africa-based bombers hammering away at north-south railways, harbor facilities, and factories. The certainty of invasion was reflected in new reports of German reinforcements moving to the industrial areas in the north of Italy.

• **Threat to Continent**—For months now, British and American bombers have droned across the channel to rock one after another German industrial city to its deepest raid shelters. Along the tense invasion zones of northern France, German reconnaissance planes wing into the stratosphere to keep vigil over the newly expanded defense areas in the south of Britain.

In the Balkans, King Boris III of Bulgaria died under mysterious circumstances, and in Greece and Yugoslavia, guerrilla fighters continue to harry occupation troops. Small secret armies in southern France, supplied from Africa, pursue carefully planned sabotage.

• **Danger of Explosion**—Tension in Scandinavia, climaxed by the full occupation of Denmark after the fashion of Norway and France, has been growing steadily.

Early in July, Finnish volunteers fighting with German units on the Russian front laid down their arms at the conclusion of their two-year contract and returned home. Failure of the German summer offensive renewed hope among those factions in Finland which are satisfied with recapture of territory lost to Russia in the winter of 1939-40 and who want to get out of the war.

Finland is dependent upon Germany for war equipment and some food, much of which was moved by rail through

Sweden after Soviet submarines made Baltic shipping risky. Swedish cancellation of transit privileges for German supplies will weaken the Finnish front, encourage antiwar activities. Already Finnish newspapers have been permitted to discuss the subject of defection from

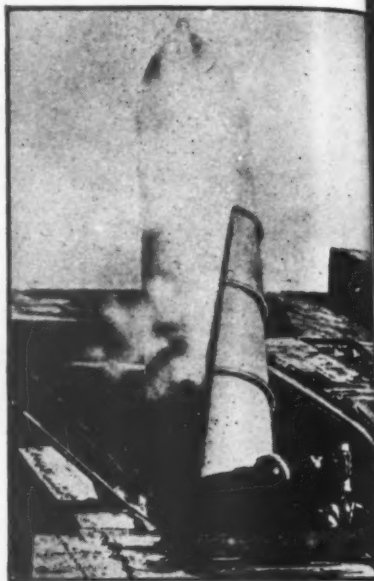
GERMANY'S ROCKETS

Germany's latest and loudly vaunted "secret weapon" may be its new rocket-type artillery shell (below) or its land torpedo (right). According to Nazi sources, the shells can be fired from mobile batteries to lay protective smoke screens (perhaps gas) or plaster enemy positions with fire and blasts. They give no details on the torpedo other than its use to fortify posts on Europe's coastline. However, it too apparently operates on the rocket principle which has the advantage of little recoil. Various types of artillery rockets already have been used by Russian and American troops in this war (BW—May 1 '43, p.22).

the Axis cause, a separate peace with Russia.

• **Sweden Harassed**—Sweden's cutoff of German traffic came after many provocations. Trespassing war planes have been fired upon and grounded. German courier planes, permitted transit privileges by special agreement, have been caught bearing uniformed soldiers and arms, contrary to the understanding. Swedish submarines have encountered mines and have been sunk by belligerents. Even Sweden's safe-conduct arrangement with the warring nations has not been uninterrupted, and mine barriers have taken a toll of Swedish shipping in the war area.

With the occupation of Norway, Sweden was caught with 1,000,000 tons of shipping inside the Skagerrak, 850,000 tons outside. According to



Minister Christian Gunther, 400, tons were chartered to Britain for military use. Since the start of war, 1,000 tons have been lost, and sinkings during the first six months of this totaled 69,136 tons. Attempts to check sinkings by building have failed because Germany is unable to deliver promised supplies of plate steel.

Cold Gets Hot—Trade with Germany has been a nerve-wearing experience for Sweden, involving constant discussion of quantities, methods of shipment, and terms of payment. Sweden has consistently refused to give credit to Germany and recently declined to accept gold in payment for Swedish exports. Its latest twist is believed to arise from a fear that the United Nations will implement their promises to unshackle Axis security and financial dealings to the point of reclaiming German gold accepted by neutrals trading with Germany.

Along with other refinements introduced to keep trade on a strictly barter basis, Sweden has evolved techniques for valuing commodities on a man-hour standard in the absence of any trustworthy method of equating currency values. This procedure has been applied primarily to exchanges of coal and iron which bulk large in Swedish-German trade.

Nazis Strike Back—Germany's reprisal for the severing of rail connections with Poland and Norway across Sweden came quickly. On Aug. 12, the Reichminister for Transport announced that German railways would no longer be available for carrying Swedish products to Italy. Sweden exported an important part of Italy's cellulose requirements and, in return, obtained much-needed suits and textile products. Before the war, this trade ran into millions of dollars.

Immediately following the American daylight bombing raid on the Ploesti oil fields, the Danish radio reported that oil exports from Rumania to Sweden would no longer be possible. From other parts of the Axis with which Sweden had trade agreements, similar reports are heard.

May Mean New Demands—Not all these actions are in the form of reprisals. Some are dictated by the increasingly difficult supply situation in Germany and the occupied areas as a result of bombings. Inability to deliver goods in the past has always resulted in new demands for credit and threats of violence, which have so far been rebuffed by Sweden.

The war has forced Sweden to exert many efforts to curtail civilian consumption and industrial use of imported materials in driving toward self-sufficiency. The index of industrial production (1935=100) fell from 125 in June, 1939, to 111 in June of this year. Wholesale prices over the same period

Deep-drawing made it light and strong enough to fly



This cylinder, a reservoir of hydraulic energy for aircraft use, is another example of the way in which the Hackney Deep-Drawing Process helps manufacturers strengthen and reduce the weight of parts simultaneously.

Hydraulic energy to feather propellers, operate landing gear, flaps, etc., requires accumulators which are light in weight, yet are strong enough to withstand high internal pressures.

Hackney engineers co-operating with the accumulator manufacturer developed a cylinder to meet the exacting specifications. Unnecessary weight was eliminated and uniform sidewall thickness was assured by cold drawing. Ample strength was assured by electrically controlled heat-treating.

In addition to successfully meeting the weight-strength requirements, the Hackney Deep-Drawing Process makes important savings in time and materials as no machining is required for weight reduction in producing these improved products.

If you have a problem which deep-drawing might solve, let Hackney's engineers help you. Their experience may enable you to overcome manufacturing difficulties, meet war material limitations or effect product improvements. Write for details.

Pressed Steel Tank Company

General Offices and Factory 1493 SOUTH 66th STREET
Milwaukee, Wisconsin



DEEP-DRAWN
SHAPES AND SHELLS





**...this
war worker
puts in 24 hours a day**

Today's stepped-up transportation schedules keep army supply depots humming 24 hours a day. Under such requirements Mobilift has proved itself one of the army's best bets for inside transportation. Gas-powered for 24-hour continuous service, these sturdy little giants keep going at top speed, lifting, moving, stacking, and loading vital war supplies.

The army's use of Mobilift has taken most of our production. Our Mobilift units are solving many problems which will help you to improve your inside transportation system in days to come. Plan now to employ Mobilift in your own organization as soon as more machines are available for essential industries.

MOBILIFT

Moves Materials like a Giant!

VAUGHAN MOTOR COMPANY • 835 S.E. Main St. Portland 14, Oregon

48 • The War—and Business Abroad



ADVERTISING LABELS

With a thought for postwar markets American textile mills are making sure wartime shipments of U.S. fabrics and clothing to the earth's far corners carry proper identification. Similar to those adopted by other industries, the labels, sponsored by the U. S. Textile Export Assn. with Office of War Information blessing, are going on all shipments, big and little.

moved from 109 to 197. The cost-of-living index rose 45 points from 108 to 153. Most of these indexes have leveled off after sharp shifts during the first years of the war.

• **Cost of Preparedness**—In constant fear of a swift German attempt to consolidate the Scandinavian area within the Axis bloc, Sweden has spared no effort to strengthen its defenses. In 1935, Swedish military expenditures ran only to \$25,000,000 but for the past two years have exceeded \$600,000,000. For the current fiscal year, war appropriations total \$675,000,000. Sweden's national income is approximately \$3,000,000,000, and for the 6,500,000 citizens, the outlay per capita is better than \$100 a year.

Sweden has an army of about 600,000, an airforce of 50 squadrons supported by a substantial reserve of equipment, and a navy which includes eight battleships, two cruisers, one aircraft carrier, 25 destroyers, 16 motor torpedo boats, 32 submarines, and hundreds of minelayers, minesweepers, and auxiliary craft. Other naval vessels are being built, and some may already have been completed and added to the fleet. In the event of war, the parts of the Danish fleet that fled to Sweden last week could be put into service.

• **Leans to the Allies**—Sweden waits uneasily for the moment when Scandinavia will become the focus of military operations, ready to defend its neutrality against any aggressor, but, nevertheless, strongly sympathetic to the cause of the United Nations.

Business Week • September 4, 1943



Return from Rouen, by Peter Hurd, shows American 8th Air Force bomber Command returning to base in England from first all-American blow at Hitler's Europe. The ground crews in an excited and

joyous breach of regulations surge out onto field. The twenty paintings in the Hurd collection are the result of the five months the artist spent living with the Bomber Command recording its men and activities.

First historic art record of war created by LIFE's new style of journalism

**Actual battle-front paintings
by America's great artists are now
appearing in pages of LIFE magazine**

For the first time in American history, a war is being painted at the actual battle fronts, by the great artists of our country.

When America prepared for the war in 1941, LIFE felt that our artists could play a very important part in recording this great effort. LIFE artist war correspondent, Tom Lea, was already in the North Atlantic on a destroyer with a convoy carrying Lend-Lease war material to Great Britain when war came to the U.S.

After Pearl Harbor, artists were sent to every part of the front. Today, LIFE has more than 200 canvases and a continuing coverage of the war by 29 famous artists. Many of their pictures have already been reproduced in LIFE where they are proving to be a realistic and revealing new technique of war reporting. And as new pictures are completed they will be published in LIFE.

The artists who are contributing to this graphic contemporary record of World War II were nationally famous

before the war. They include such artists as Tom Lea, Peter Hurd, Fletcher Martin, Floyd Davis, Paul Sample, Millard Sheets, and Julien Binfond.

Now, 146 of these finished paintings, covering events from the start of the war to the American campaign in North Africa, have been collected and will be placed on exhibition in leading art museums from coast to coast.

The first public showing of these paintings has just been concluded at the National Gallery of Art in Washington, D.C., where it attracted wide attention among art critics and national leaders.

Comment from officials

ADMIRAL A. J. HEPBURN
Chairman of the General Board of the Navy

"I am tremendously pleased by the realism, the authenticity of the paintings in the LIFE collection. To me, even more important than their value in giving civilians a vivid, accurate idea of what war is like, is the good done the men in service, through the recognition of their work."

COLONEL OVETA CULP HOBBY
WAC Director

"American artists depicting the actual combat scenes of this war have

contributed an unparalleled record which is of great value now and for the future."

FRANCIS HENRY TAYLOR
Director, Metropolitan Museum of Art

"This collection of over 200 war paintings which LIFE Magazine has commissioned strikes me as of high significance. What these artists have set down they have set down for the benefit of us civilians, to whom their works will probably provide the closest contact with reality we are likely to experience."

LIFE is the only publication to send leading artists to the battle front as war correspondents to do this kind of vivid and accurate war reporting, which brings readers so closely in contact with the realities of war.

After the war LIFE will donate its entire collection of paintings to the U.S. Government to be permanently housed in whatever memorial is erected to commemorate World War II.

LIFE

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1943



NIPS CAUGHT NAPPING ON PACIFIC ISLAND "X"

Surfacing silently, a U. S. submarine in a surprise early morning call pours blazing destruction on a Japanese island base. The noted naval authority, Fletcher Pratt, helped us prepare this picture.

In U. S. submarine raids and on every battle-front, large quantities of Westinghouse-made weapons and equipment are in the fight. On the production front, Westinghouse Air Conditioning and Industrial Refrigeration provide correct conditions of temperature, humidity and air cleanliness to make possible uniform quality, high precision, fewer rejections, faster output.

When the war is won, a thousand new-day benefits will result from Westinghouse "Conditioning". Better products at lower cost, greater year 'round comfort and convenience—better living for all.

In helping solve "conditioning" problems, Westinghouse offers years of experience with thousands of varied installations. The exclusive, hermetically-sealed compressor assures long life, economy, dependability. Inquiries are invited from producers of war materials and from postwar planners.

WESTINGHOUSE ELECTRIC & MFG. CO.
735 Page Boulevard Springfield, Mass.
Plants in 25 Cities... Offices Everywhere



HOT SHOT. Gunshot is tested in manufacture by plunging alternately in hot and refrigerated liquid baths. If small, invisible cracks exist, this shock test enlarges them to visibility.



FATAL CROSS HAIRS. Periscopes for U.S. submarines are intricate devices requiring extreme precision in manufacture. Uniform accuracy is effected by maintaining constant air conditions.



SEEING AT SEA. Delicate lenses and small parts of binoculars are protected from possible damage due to excess humidity, temperature and dust, during grinding and assembly, by air conditioning.



LISTEN! Extreme precision required in manufacture of devices for communication, detection and sensitive control instruments is made possible by maintaining constant temperature, humidity and air cleanliness with air conditioning.

Tone by John Charles Thomas, NBC, Sunday, at 2:30 P.M., E.W.T.

Westinghouse Air Conditioning

GEARED TO A THOUSAND WARTIME NEEDS

POWER TO WIN

Powered by Continental Red Seal Engines, these highly maneuverable trainers fly with the steady dependability that inspires confidence in thousands of youngsters streaming through our military schools.

Your Dollars Are Power, Too!
Buy War Bonds

ARMY
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NAVY

Awarded to the United States Army and Navy
at Continental Motors Corporation
for High Achievement.

Continental Motors Corporation
MUSKOGEE PLANT

poses a compulsory bargaining plan for the war industry for the duration. Officials see in this a prospect of further wage adjustments under mandatory bargaining agreements.

These recommendations are based on a majority report of NWL signed by Chairman C. P. McTague, Justice of the Ontario Supreme Court, and Leon Lalonde, representative of the industry. A minority report proposing additional concessions to labor is being submitted by J. L. Cohen, labor member of the board and legal adviser to C.I.O. unions in Canada.

• **Labor Member on Strike**—Cohen has carried into the third week his personal sitdown strike against functioning as a member of the labor board until Ottawa adopts a labor policy favorable to demands made by the big unions during recent hearings. While refusing to resign, Cohen is declining to take further part in the board's operations and has ignored McTague's suggestion that he go back to work or resign.

A demand that Labor Minister Humphrey Mitchell remove Cohen resulted this week from a statement by C.I.O. officials that Cohen, after staging his strike, had assured the unions for which he is legal counsel that he is prepared to make an exception in their case and take part in decisions on their applications for union recognition and wage adjustments. The outlook is that Mitchell will ask for Cohen's resignation.

• **Closed Shop Denied**—Actually most of the demands of labor are conceded by the majority report, with the reservation that compulsory bargaining rights should not be limited to the big unions but extended to shop and other independent unions, and that the responsibility of the unions for carrying out their contracts should be established, as proposed by industrial employers. The board plan denies the C.I.O. demand for the closed shop and the checkoff throughout Canadian industry.

HEARST TO PAY FOR PAPER?

Canadian newsprint producers were interested this week in a Montreal report that the Hearst newspaper interests in the United States were prepared to offer a settlement of the five-year-old claim of Canadian newsprint suppliers for \$8,500,000. Principal companies holding Hearst notes are Anglo-Canadian Pulp & Paper, Abitibi, Consolidated Paper, Canadian International, and Lake St. John Power & Paper. Other companies are carrying smaller parts of the debt.

Word in Montreal is that the Hearst interests are prepared to settle for 50¢ on the dollar with long-term contracts to compensate for the loss, or to give new ten-year 3½% notes for the full amount.

watch the south-east



...INTERNATIONAL SERVES A NEW INDUSTRIAL EMPIRE



In the land of cotton and tobacco, a new industrial empire is rising. Spurred by the urgency of war needs, Southern industry has expanded enormously and in post-war days is sure to play an increasingly prominent part in the business life of the nation. As the largest producer of phosphate rock in America and as a leading manufacturer of complete fertilizers, International has served agriculture in the South East for more than thirty years. And now, with con-

fidence in the industrial future of the South, International has built a new chemical plant in Georgia to manufacture Magnesium Sulphate (Epsom Salt). This, the only epsom salt plant in that market area, is supplying textile mills, leather tanneries, cattle and poultry feed manufacturers and drug wholesalers who are important factors in the present and future industry of the South East. *International Minerals & Chemical Corporation, General Offices: 20 North Wacker Drive, Chicago.*

International **MINERALS AND CHEMICALS**

Mining and Manufacturing

PHOSPHATE • POTASH • FERTILIZER • CHEMICALS

WAR BUSINESS CHECKLIST

A digest of new federal rules and regulations affecting priorities and allocations, price control, and transportation.

Railroad Shipping

Railroads are required after Sept. 1 to substitute up to three refrigerator cars for every boxcar ordered for certain types of westbound shipments. This order, made at the request of the Office of Defense Transportation, will bring about a fuller utilization of refrigerator cars that normally return empty after bringing shipments of fresh fruits and vegetables from the Pacific Coast, and will thus ease the transportation strain. (Amendment 2, ICC Service Order 104.)

The operation of special fast freight trains carrying war materials, which have previously taken precedence over regular traffic, has been stopped by order of the Interstate Commerce Commission at the request of the Office of Defense Transportation because such operation tends to congest traffic in the terminals and calls for a disproportionate use of motive power and men. (ICC Service Order 150.)

Glass Containers

Quota limitations on glass containers have been eased so that production is unlimited for shortening containers, and for coffee containers is raised from 65% of 1942 use to 75% of 1941 use. Restrictions are also relaxed on large-size glass containers for commercial users, and on beverage bottles. (Supplementary Order L-103-b, as amended.)

Quantity discounts for the standard line of wide-mouth glass containers are limited to the lowest possible published price to any purchaser of a single order of 1,000 cases or more as a result of an amendment that requires the continuation of all price differentials for nonstandard containers allowed by manufacturers to large quantity purchasers during July, 1941. (Amendment 3, Regulation 382.)

Fuel Oil

Provision has been made for emergency reserves of fuel oil for certain users for commercial, industrial, or governmental purposes—the so-called "1102" consumers—whose storage facilities can hold more than a 30-day supply of oil (based on current quarterly rations) if the area is well enough stocked so that such reserves will not jeopardize the fuel oil supply of other ration holders. In general, the reserve granted will equal the unfilled storage capacity of the facilities containing the current three months' allotment of oil, or 90 days' maximum requirements, whichever is less, or a 180 days' supply if winter deliveries are impossible. This action does not affect the amount of oil that may be used during the quarter. (Amendment 75, Ration Order 11.)

Tires

Tire rationing eligibility rules are broadened by a recent OPA action that provides recapping services and new tubes upon presentation of certificate, for all commercial

vehicles, regardless of the use to which the vehicles are put. (Amendment 47, Ration Order 1A.)

Services

OPA's ruling covering services has been revised for storage of rugs, clothing, and household fabrics by other than general

commercial storage warehouses; services in connection with the sale and purchase of commodities; photostating, blueprinting, and microfilming; cleaning and similar services in connection with transportation equipment; laboratory service; and pasteurizing and bottling fluid milk and cream. (Amendment 28, Regulation 165.)

Seafood

A new plan permitting wholesalers who buy canned fish direct from canners and packers to borrow ration points will allow purchasers to secure the major share of their supplies during the peak months of the packing season. Borrowed ration points, good until May 1, 1944, must be repaid within



Angelina County Lumber Co.
Keltys, Tex.
Babcock & Wilcox Co.
Alliance, Ohio
Botwinik Bros., Inc.
New Haven, Conn.
Briggs Clarifier Co.
Bethesda, Md.
Cape Ann Tool Co.
Pigeon Cove, Mass.
Cayasler Mfg. Corp.
Buffalo, N. Y.
Central California War Industries, Inc.
Fresno, Calif.
Claridge Food Co.
Flushing, N. Y.
Consolidated Timber Co.
Glenwood, Ore.
Craftsweld Equipment Co.
Long Island City, N. Y.
Criterion Machine Works
Beverly Hills, Calif.
Crown Fastener Corp.
Warren, R. I.
Frank J. Derrick Brick Co.
Cincinnati, Ohio
The Displayers
New York, N. Y.
R. J. Ederer Co.
Chicago, Ill.
Electrical Connectors & Mfg. Co.
South Milwaukee, Wis.
A. F. Gallun & Sons Corp.
Milwaukee, Wis.
General Motors Corp.
(Two plants)
J. W. Greer Co.
Cambridge, Mass.
Haaber Screw Machine Products Co.
Chicago, Ill.
Hamilton Foundry & Machine Co.
Hamilton, Ohio

Hamilton Mfg. Co.
Two Rivers, Wis.
Hathaway Mfg. Co.
New Bedford, Mass.
Hazeltime Electronics Corp.
Little Neck, N. Y.
Heller Bros. Co.
Newcomerstown, Ohio
Herman Pneumatic Machine Co.
Zelenople, Pa.
Hollup Corp.
Cicero, Ill.
Houston Milling Co., Inc.
Houston, Tex.
Ileo Ordnance Corp.
Bedford, Ind.
King Machine Tool Co.
Cincinnati, Ohio
Long - Turner Construction Co.
Kansas City, Mo.
McGraw Electric Co.
Elgin, Ill.
Marine Basin Co.
Brooklyn, N. Y.
Maxon Construction Co., Inc.
Hastings, Neb.
Midwest Piping & Supply Co.
Los Angeles, Calif.
Minneapolis Electric Steel Castings Co.
Minneapolis, Minn.
National Company, Inc.
Malden, Mass.
National Enameling & Stamping Co.
Milwaukee, Wis.
Neenah Paper Co.
Neenah, Wis.
Owens-Illinois Pacific Coast Co.
Oakland, Calif.

Phelps Dodge Copper Products Corp.
Los Angeles, Calif.
Phoenix Glass Co.
Monaca, Pa.
Remington Arms Co., Inc.
Salt Lake City, Utah
G. F. Richter Mfg. Co., Inc.
Glendale, N. Y.
Rochester Ropes, Inc.
Culpeper, Va.
Rockwood Sprinkler Co.
Worcester, Mass.
S & S Corrugated Paper Machinery Co., Inc.
Brooklyn, N. Y.
Shenango-Penn Mold Co.
Dover, Ohio
Smith, Jacobs & Langston Co.
Richmond, Fla.
Vincent J. Spelman & Co.
Brooklyn, N. Y.
Stacey Bros. Gas Construction Co.
Cincinnati, Ohio
Stadium Yacht Basin, Inc.
Cleveland, Ohio
Strong, Cobb & Co., Inc.
Cleveland, Ohio
Tulsa Winch Mfg. Co.
Tulsa, Okla.
Twin Disc Clutch Co.
Racine, Wis.
Warren Steam Pump Co.
Warren, Mass.
Webster Electric Co.
Racine, Wis.
Weyerhaeuser Lumber Co.
Longview, Wash.
Willamette Valley Lumber Co.
Dallas, Ore.
Wyott Mfg. Co.
Cheyenne, Wyo.

(Names of winners of the Army-Navy and Maritime Commission awards for excellence in production announced prior to this new list will be found in previous issues of Business Week.)



Maps in minutes...by Multilith

YOU can't expect even the Marines to know where every enemy gun, pillbox and tank trap is when they first land on a hostile shore. So they take a Multilith* machine with them.

Right on the beach—as moment-by-moment reports come from scouts—enemy positions are instantly drawn on a paperlike Multilith master, slipped onto the machine, and correct maps run off for quick distribution, to save lives of fighting men

This is the same machine and the same paperlike master (called

Duplimat*) that thousands of businesses are using to speed production schedules, save vital man hours and assure accuracy.

You probably have in your office and factory a Multilith (or Multigraph* or Addressograph* which save in other equally important ways). Let us help you make sure you are getting all the uses and values these modern machines have for you. There is no obligation except the obligation we all have to produce everything we can as fast as we can for victory. Write Addressograph-Multigraph Corporation—Cleveland and all principal cities of the world.

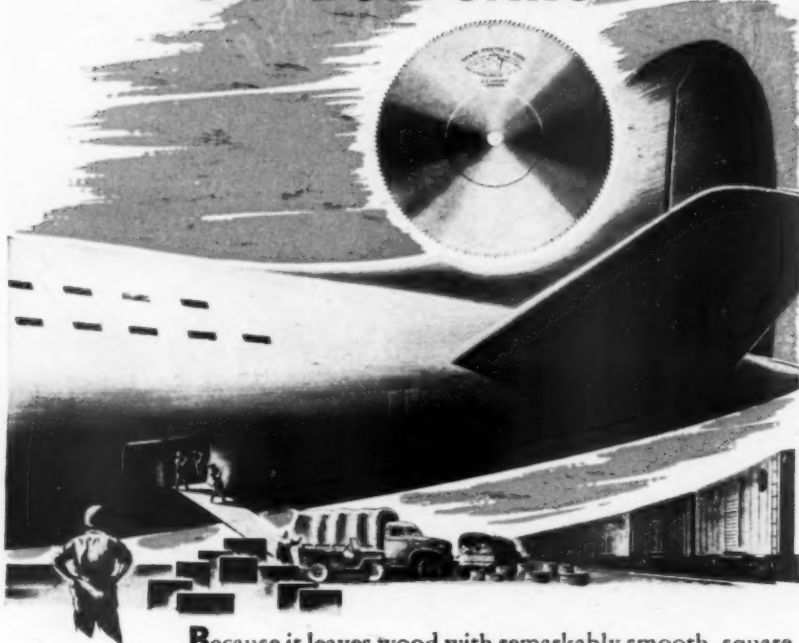
*T. M. Reg. U. S. Pat. Off.

Multigraph

TRADE-MARK REG. U. S. PAT. OFF.

SIMPLIFIED BUSINESS METHODS

THIS TRIMMER SAW IS PUTTING WINGS ON "BOX CARS"



Because it leaves wood with remarkably smooth, square ends, this Disston saw is speeding the production of the newest wonders of war-spurred aviation—the huge 8-motored planes that have proved they can carry 120,000 pounds of freight.

Long renowned for running true and cutting straight, the Disston 4-S Smooth Trimmer Saw isn't a new tool. In helping mass production of the giant wooden, water-based flying box cars, it has simply found a new and thrilling job to do in the war effort.

Made of specially heat-treated Disston Steel, highly tempered and hollow ground for longer life between sharpenings, this efficient saw reflects the craftsmanship responsible for the extra quality of all types of Disston wood and metal cutting saws, files, hack saw blades, tool bits, and machine knives. Cooperation on tool problems and information about Disston products are yours for writing Henry Disston & Sons, Inc., 928 Tacony, Philadelphia 35, Pa., U. S. A.



While Disston engineers are creating new tools with which to do old jobs better, the standard Disston tools are ever finding new ways of usefulness.

DISSTON

Conserve Man-Minutes



and help win the war

one year from the date of issuance. Application should be made, on OPA Form R-315 to the Meat Branch, Food Rationing Division, Office of Price Administration, Washington.

A price amendment designed to protect existing ceilings on canned fish established the fisherman's—or ex-vessel—maximum as the basis for sales of fresh fish to a cannery and revises slightly the ceilings on cod, hake, and haddock to bring them in line with



BERRIES COME CLEAN

Traditionally a hand operation requiring tireless fingers and patience, strawberry capping can now be done quickly with a new machine which experts had declared impossible to devise. Consisting mainly of a vertical cylinder made up of small motor-driven rollers, the unique capper is 30 times faster than a skilled hand worker. Berries fed into a hopper at the top drop evenly to ten truncated cones or shelves around the drum. Rolling down the inclined shelves, their hulls are caught between the turning spindles made of rubber and fluted brass, alternately placed. The wringer action draws leaves and stems into the cylinder where they are washed into a sewer while the hulled berries land in containers. Invented by Arthur H. Morgan (above), University of Tennessee research worker at Knoxville, the machine was found to be almost 100% effective in turning out 150 crates of berries daily in actual processing this summer. Morgan and the university hope to have the capper produced in larger models in time to save considerable manpower and plenty of tired fingers during next year's berry seasons.

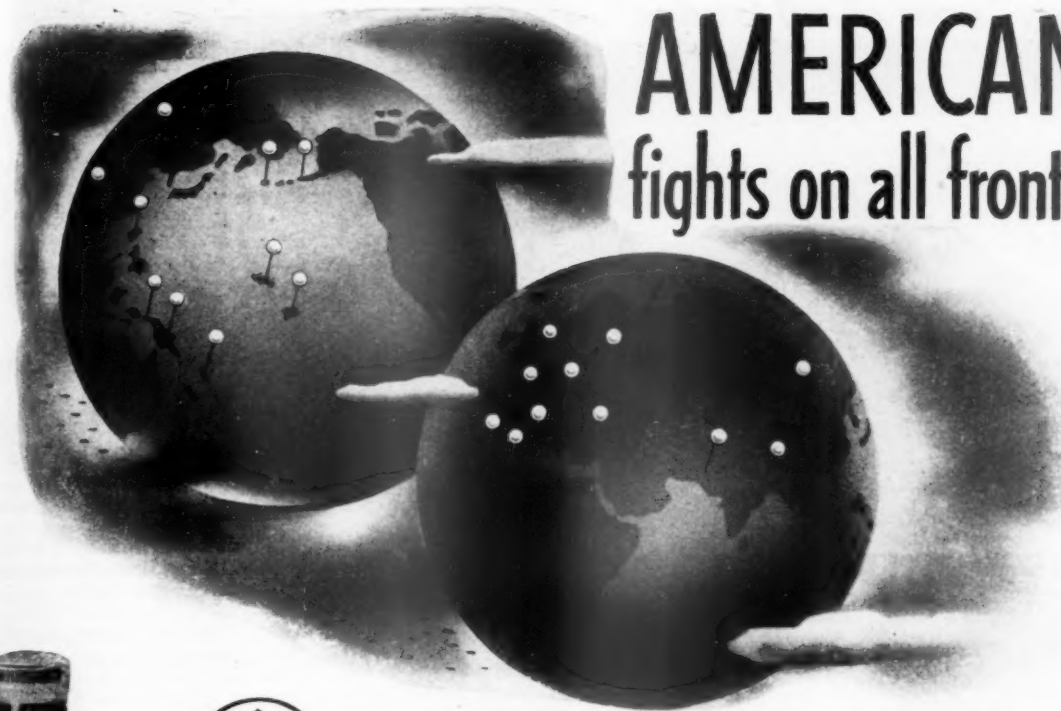
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AMERICAN fights on all fronts



Meanwhile, from our pre-war stocks of mellow whiskey, we continue to offer limited supplies of: **BURTON'S Blended Whiskey, 86.8 proof, 60% grain neutral spirits** **BOURBON SUPREME** A Blend of Straight Whiskies, 90.4 proof **GOOD OLD GUCKENHEIMER** Bottled-in-Bond Straight Bourbon and Straight Rye Whiskies.



Wherever our armies and the armies of our allies fight for freedom, we of The American Distilling Company are fighting, too. Today, ALL of our production is alcohol for use in smokeless powder, chemicals, pharmaceuticals and synthetic rubber. So, if you are unable to buy OLD AMERICAN BRAND whiskies or any other old favorites, be patient. They will return with peace.



THE AMERICAN DISTILLING COMPANY inc.

PEKIN, ILL.

NEW YORK, N. Y.

SAUSALITO, CAL.

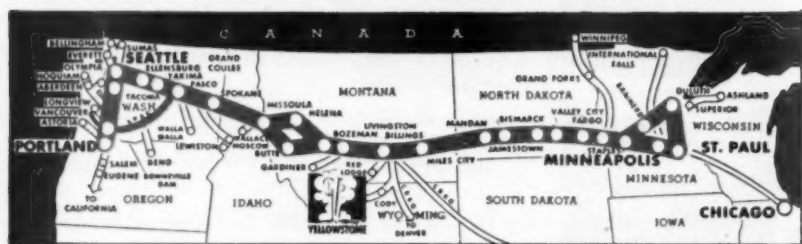
Flax, "jack of all trades" . . .



supplies enough straw to make . . .



paper for 180 billion cigarettes . . .



via the Main Street of the Northwest!

An important new use has been found for the amazing flax plant. Long a source of dozens of necessities and comforts—from coarse rope to finest cloth, from paint base to cattle feed—flax is today going into the manufacture of American cigarette paper.

Use of clean flax straw from Minnesota, North Dakota and Montana, instead of European rags formerly used, gives smokers

a superior product and farmers cash for what was a waste before the war. Vast fields of flax in the territory served by Northern Pacific grow nearly three-fourths of America's fiber—enough to make paper for more than 180 billion cigarettes.

In '43 as in '42, this important crop will roll to market over the Northern Pacific Railway—Main Street of the Northwest.



MAIN STREET OF THE NORTHWEST

other prices under the regulation. (Amendment 4, Regulation 418.)

Gummed Sealing Tape

Prices for standard grades of gummed Kraft sealing tape have been reduced about 6% by a new regulation that substitutes approximate levels of the period July through September, 1941, for the levels of December 1-15, 1941, which were the established levels under MPR 129. For sales of standard grades, and to persons other than distributors, differentials prevailing during Oct. 1-15, 1941, may be added to the new prices. (Regulation 459.)

Southern Hardwood and Pine

To meet rising costs—chiefly labor—an increase of \$6 per 1,000 b. ft. in the prices of all standard grades and items of southern hardwood board lumber is provided in an OPA ruling that affects over 90% of southern hardwood production and is expected to raise mill realizations 14.5% (Amendment 8, Revised Regulation 97.)

Another action to stimulate small mills in the southern pine lumber industry permits wholesalers, with some restrictions, to add a 6% charge for their services to the regular f.o.b. producing mill ceilings on direct mill sales, and commission men to add a 4% charge. (Amendment 5, Revised Regulation 19.)

Beryllium Copper Scrap

To increase the supply of beryllium copper alloy, WPB has ordered manufacturers who generate 100 lb. or more of beryllium copper scrap in any month to segregate such scrap for reclamation and has placed restrictions on the use of beryllium scrap, which is hereafter excluded from Orders M-9-b, as amended, and M-160, as amended. (Supplementary Order M-160-a.)

Other Price Actions

Maximum prices for the 1943 crop of dried prunes and raisins, in dollars per ton, representing increases over 1942 ceilings of 35% and 40% respectively, have been established by OPA's Regulation 461, while grower support prices for West Coast dehydrated raisins have been announced by the War Food Administration at levels ranging from \$195 to \$215 per ton. . . . Two types of linseed oil which have not been manufactured before are given price ceilings at all sales levels by OPA's Amendment 4, Regulation 53. . . . OPA Regulation 445, as amended, allows OPA regional offices to revise downward the percentage markups by which sellers determine their maximum prices for liquors and wines in cases where these markups are found to give wholesalers or retailers excessive margins.

Other Priority Actions

An amendment to WPB's Allocation Order M-340 brings under the control of that order phosphoric acid obtained as a byproduct in the manufacture of methyl methacrylate. . . . Permission to use rail steel angles and bessemer or low carbon steel for frames and borders in the manufacture of coil, flat, and fabric bed springs is granted in WPB Order L-49, as amended.

THREE WAYS to get more out of your Burroughs machines

USE ALL SHORT-CUTS

Make sure operators are thoroughly familiar with and are using all of their machines' automatic features, keyboard controls and other special time-saving advantages. Write related records as one operation. Obtain statistics and figures for reports as a by-product of regular posting routines.



KEEP THEM IN GOOD CONDITION

Right now you can arrange for regular, periodic inspection, lubrication and adjustment of your Burroughs machines, to safeguard your office from emergency repairs and the delays they entail. A standard Burroughs Service Agreement provides this efficient protection at a moderate, predetermined cost. All work is guaranteed by Burroughs.



USE GOOD SUPPLIES

Your machines will produce more and better work if you use Burroughs carbon paper, roll paper, ribbons and other Burroughs supplies. They are manufactured to the exact specifications determined by Burroughs' experience. They are economical, too, with 10% to 40% discounts for quantity purchases.



Are you taking all these steps to get the most out of your Burroughs machines today? If not, let Burroughs help you. Call the local Burroughs office or write Burroughs Adding Machine Co., Detroit.

Burroughs

ADDING, CALCULATING, ACCOUNTING, BILLING, PAYROLL AND STATISTICAL MACHINES
NATIONWIDE MAINTENANCE SERVICE • OFFICE MACHINE SUPPLIES

MANUFACTURING FOR WAR

The manufacture of aircraft equipment for the Army Air Forces, and the manufacture of Burroughs figuring and accounting equipment for the Army, Navy, U. S. Government and the nation's many war activities, are the vital tasks assigned to Burroughs in the Victory Program.

PRODUCTION

Past Pilot Stage

Successful commercial production of 99.9% pure manganese achieved; it's becoming an important metal on its own.

Manganese of 99.9% purity has been hustled from the pilot plant stage (BW—May 11 '40, p. 34) to successful commercial production since Pearl Harbor. Ultrapure manganese is not to be confused with ferromanganese and spiegeleisen which long have provided the major means of introducing manganese to steel as a deoxidant and toughener; it is fast becoming an important industrial metal in its own right.

• **Lustrous Polish**—In the pure state, manganese is harder than iron, has a pleasing gray color tinged with pink, takes a lustrous polish. Alloyed with a little copper, the exact quantity of which will have to remain a military secret, it has the tensile strength of mild steel plus the ability to absorb and damp vibrations of a fairly soft rubber. Such an alloy would seem to be a natural for engine mufflers, quiet gears, and vibration-absorbing machinery supports since it can be stressed to 35,000 lb. a square inch without the loss of damping qualities.

Whereas manganese is usually thought of as a brittle metal, it becomes ductile through the addition of small quantities of nickel and copper. The same alloy can be heat-treated to the hardness of die steel. Another alloy shows unusual resistance to the passage of electricity, while still another resists

the transmission of heat almost as well as the plastic handle on a coffee pot. There are new manganese bronzes, manganese-aluminum-magnesium alloys, silver-manganese combinations like that used to replace scarce nickel in the nation's 5¢ pieces.

• **Different Characteristics**—Not all the new manganese alloys have the element as their principal constituent. Both a new high-tensile naval bronze and the bimetallic strip used in temperature control instruments are being made with electrolytic manganese as one of their alloying elements. Alloys of zinc with minor proportions of electrolytic manganese take on different characteristics from those blended with lower purity material. One notable alloy of zinc, manganese, and copper is ductile and tough with a tensile strength of nearly 100,000 lb. to the inch. Certain new die-casting alloys are stainless, a fact which will enable their use in postwar automotive hardware.

Strangely enough, 99.9% manganese may very well be competitive as a deoxidizer and toughener of steel. Metallurgists are finding that it can be added to steel and other metals without the simultaneous addition of other elements such as carbon, aluminum, silicon, or phosphorus which too frequently have been present in commercial forms of manganese heretofore available. The electrolytic form offers distinct advantages in bringing low carbon steels, especially the new austenitic stainless types, up to manganese specifications without the necessity of preliminary overoxidation now needed to keep carbon and silicon within limits.

• **Exclusive Producer**—Electrolytic manganese was produced on a laboratory



The dullish plated coating on the polished stainless steel cathode is electrolytic manganese, 99.9% pure.

scale as early as 1854 by Robert Bunsen of Bunsen burner fame. Interest was kept alive by researchers in various universities, notably Columbia, and sufficient information was collected for the Bureau of Mines to begin experiments on a small pilot plant scale several years prior to the war. In 1939, Electro Manganese Corp. built a larger pilot plant at Knoxville, Tenn., to take advantage of Tennessee Valley Authority power and ready accessibility to raw materials and markets. This plant, which has now been expanded for full commercial production, is still the exclusive producer of electrolytic manganese.

Original idea was to relieve dependency on foreign manganese by utilizing native ores most of which run lower in manganese content than those imported from Russia, Africa, and Brazil. The Knoxville plant can and does utilize some domestic ores which are too low grade for usual metallurgical processes. It has been found, however, that not all low-grade ores (and not all high-grade ones) can be utilized for various obscure metallurgical reasons.

• **How Process Works**—The electrolytic process consists essentially of furnace-reducing manganese dioxide ores to manganous oxide and dissolving the contained manganese with sulphuric acid which is present in spent electrolyte obtained from former runs in electrodeposition cells. The latter plate out the pure metal on large stainless steel cathodes from which it is stripped and shipped. Parenthetically, the raw solution must be purified with extreme care because almost immeasurably small quantities of nickel, cobalt, and other elements will inhibit plating.

Productive capacity is a military secret. It can only be said that it has grown to a point where costs are permitting market prices for electrolytic manganese of 37.6¢ to 40.65¢ a pound, as compared with 50¢ in 1940.



Row upon row of electrolytic cells extract manganese from a sulphuric acid solution and deposit it in virtually pure form on stainless steel cathodes.

Reserves Probed

Iron ore mines jointly are financing research on low-grade ores against the day when richer stuff is exhausted.

Exhaustion of the fabulously rich high-grade Minnesota range iron ores (ENR—Nov. 14 '42, p17) is not quite as worrisome a subject in Minnesota as in Washington, but it is being pondered nevertheless. Iron ore deposits don't grow like trees, and when reserves are being diminished by 100,000,000 tons a year, as at present, an ultimate end must be reached.

• **13 Years' Supply**—Reserves of high-grade ore in Minnesota are estimated by the state today at 1,375,000,000 tons, or more than 13 years' supply at current going rates. But many mining engineers say that these reserves include mainly those which have actually been found available for open pit mining. They do not include many unstaked deposits, these observers believe, which may be reachable by underground work. Further, Minnesota levies taxes on ore in the ground, so companies are not anxious to see reserves outlined which will not be used for many years.

In the beds as yet untapped, say the optimists, may be enough tonnage of high-grade ore to carry on for decades past exhaustion of presently visible supply. On the other hand, pessimists believe another ten years will see the beginning of the end of 55%-plus Minnesota ores.

• **Low-Grade Deposits**—Beyond that, of course, are immense interlarded deposits of low-grade hematite and magnetite ore deposits. Many lie close to the surface, ready for open pit stripping. They probably will be used one way or another when the high-grade deposits run out. Meanwhile, methods are being sought to utilize the low grades most efficiently.

Significant is the action of ten of the major mining companies in setting up a \$50,000 fund for the start of research in utilization of low-grade hematite. This research will be undertaken by the Battelle Memorial Institute, at Columbus, Ohio.

• **Silica Is a Problem**—If Battelle, or some other experimenter, can discover how to extract bothersome silica—sand—from the low-grade deposits, then a milestone will have been passed in metallurgy. None of the methods of the past has proved satisfactory. Ore has been crushed, screened, and washed to eliminate the silica impurities. It has been floated in a powerful stream which carries away the lighter sand and leaves heavier ore on the bottom.

Magnetite is amenable to magnetic



How Would YOU Handle Giant Razor Blades?

Thin 2' x 3' sheets of tin plate are sharp as a razor, dangerous to handle. They're also heavy; at least two men are required to lift several sheets. And, they're slippery; you're flirting with disaster if you stack them higher than three feet.

Must they be handled inefficiently, then . . . gingerly, slowly, taking many men and much floor space? Not when you adapt the same packing principle by which razor blades themselves are safely sold over the counter . . . not when you have Towmotor handle those "packs." Then, as in the photograph above, 2500-pound unit packages can be safely stacked to 8 feet by one man. Compare that with the limitations of manual handling methods.

You'll find many ideas for handling "difficult" materials efficiently in the Towmotor data file. If you dictate a request we'll be glad to send you a free copy by return mail.

TOWMOTOR

THE 24-HOUR ONE-MAN-GANG

TOWMOTOR CORPORATION • 1221 E. 152ND STREET, CLEVELAND 10, OHIO
STRAIGHT-GAS POWERED INDUSTRIAL TRUCKS EXCLUSIVELY—SINCE 1919

Production • 65



WHO'LL TRY GROWING KIDS • IN CLEAN AIR?

Little chinchillas get clean air to help them grow into fabulously expensive coats. No dust may enter the sanctuaries where Mickey Mouse is born. Air filters guard the synthetic fibres that glamorize our womenfolk.

Good, but maybe not good enough. If clean air can grow better fur coats, enliven our entertainment and brighten our outlook... if it can speed production of war machines and keep them fighting longer... we wonder what it would do for kids.

In homes and schools—when the Victory is ours—we hope a lot of you will want to grow kids—and live, yourself—in clean air, as well as use it for profit.

When that time comes, Air-Maze cleanable filters, with their high efficiency, long life and economy, will make it easy to live, work and study in air freed from irritating and germ-bearing dusts.

For nearly 20 years Air-Maze has specialized in solving air filtration problems. For a quick answer to your current needs—consult Air-Maze engineers first.

AIR-MAZE CORPORATION • CLEVELAND, OHIO



LOOKING FOR IDEAS?

Here are a few Air-Maze uses

Crankcases, Presses—breathers to keep lubricants clean.

Engines, Compressors—silencing objectionable intake noise.

Inflammables—safeguarding vents of storage tanks.

Communications—filters to protect radio and telephone equipment.

Aviation—intake air filters and crankcase breathers of high efficiency and light weight.

After the war—your car, home, plane and industrial machines will be better with Air-Maze filters.



**AIR-MAZE
PANEL FILTER**
one of over 3,000 types



FIGHTING FIFE

Probably the fife's most radical change since its first military use in sixteenth century England is the recent shift to plastic composition. First made of reed, later of nickel or brass, Army fifes are now made entirely of Temite II impregnated with the olive drab color. Weighing only half as much as old types, the new instrument has more volume and does not freeze to the player's lips in cold weather, according to its maker—Penzel Mueller & Co., Long Island City, N. Y.

concentration, but hematite is not. If a cheap, foolproof means of concentrating hematite can be found (Battelle has been working on a method for converting hematite into magnetite), it probably would be better to strip the low-grade ores off the surface with a steam shovel than to bear an added cost of \$1 a ton or so to go underground after richer deposits.

• **New Pits Opened**—In the meantime, available high-grade ore supply is being increased by opening new mines and reworking old ones. Oliver Iron Mining Co., largest operator in the Lake Superior ranges and a subsidiary of U. S. Steel, opened seven additional open pits this year. Included was the Mountain Iron mine, discovered in 1890 and abandoned in 1906, after which its pit filled with water. Pumping which began in June last year finished last spring, and two to three million tons of ore will be removed from the reactivated site this season.

The Embarrass mine of Pickands, Mather & Co. is also the site of a vast drainage project whose completion will open up an estimated 20,000,000 tons of high-grade reserves.

• **Enough for Furnaces**—Ore scheduled to go down the Great Lakes this year is set now at 86,500,000 tons under the

latest WPB decree, a substantial decline from the 105,000,000 tons originally projected. That new quota will undoubtedly be met, and blast furnaces at the lower Lake levels will have enough ore to last through next winter, with a comfortable margin to spare.

This optimistic viewpoint, held by all Duluth, comes after two of the biggest months of shipping ever known on the Lakes. During July, an all-time record of 13,588,814 tons was established, shading the 13,405,408-ton record total of July, 1942. In August, this volume may approach 13,700,000 tons when all the figures are in, and September expectations are even greater.

• **Shift to Grain**—Volume will continue steadily through mid-November, barring most unseasonable weather. Thereafter, as is customary, some vessels will be diverted from the ore trade, as ore-freezing time comes on, and will transport grain until the shipping season ends.

Food and Drink

National Distillers takes its first tentative step in new line by buying into Sardik, a firm specializing in dehydration.

Concerned over prohibition threats and other postwar perils to the liquor business, National Distillers Products Corp. is exploring the possibilities of diversification. Its excursion into the wine business (BW—Nov. 21 '42, p126) followed a recognized trend in the industry, but its tentative invasion of the dehydrated food field is different.

• **Tentative Step**—It was revealed last week that National Distillers had bought into the Sardik Food Products Corp., a pioneer in dehydration. So far, National's purchase of Sardik stock is said to be on an experimental scale. The step is significant in that it represents the first move of the big liquor company into food manufacturing.

Immediate result of National's acquisition will be to step up research activities of Sardik. Special emphasis will be on the possible utilization of byproducts from whisky manufacture in dehydrated foods for human consumption.

• **Tomato Products Lead**—Sardik was organized in 1929, has plants at Lockport, N. Y.; McAllen, Tex.; River Bank, Calif. The company was in the field early with its drum-drying process of dehydration. Its method of drying cranberries is employed under franchise by Cranberry Cannery, Inc.

Predominant in current Sardik production is dehydrated tomato juice, tomato flakes, tomato soup for the Army and Navy. A definite promise for postwar is a soybean-tomato soup, combin-



DODGE D-V BELT DRIVES LEAD TO *Victory* DRIVES

When you hook up your motors to production machines with Dodge Matched-Quality D-V Drives you are providing for full power delivery without waste. This means more power converted to production for stronger Victory drives on battle fronts.

Dodge Matched-Quality D-V Drives are designed to transmit full power smoothly from power source to point of production ... throughout every working minute of industry's 'round the clock power-demands.

Each D-V Sheave is precision grooved to form full, flat surface-contact with the sides of the D-V Belts. This not only assures maximum transmission of power, but also avoids slippage, uneven belt-pull and undue wear. D-V Drives give longer service ... and thus conserve critical materials. Dodge D-V Drives are compact, clean and quiet. No adjustments required ... maintenance is reduced to a minimum ... peak efficiency and economy are certain!

In the complete line of Dodge D-V Drives, bearings, clutches, pulleys and other modern power transmission units, your local Dodge Distributor offers "The Right Drive for Every Job." Contact him ... he is prepared to render valuable service.

DODGE MANUFACTURING CORPORATION
Mishawaka, Indiana, U.S.A.

**THROW ALL YOUR SCRAP
INTO THE FIGHT**

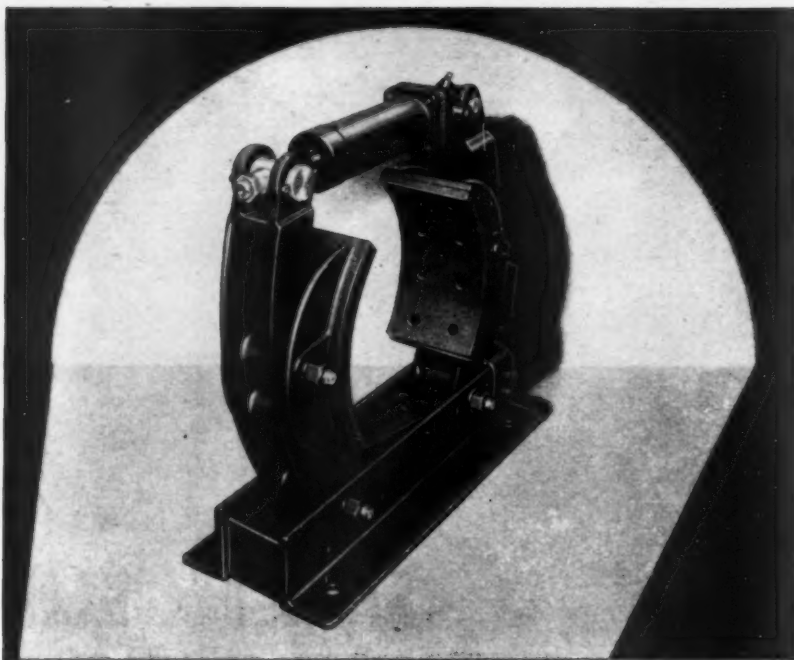
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MISHAWAKA

**BUY MORE
WAR BOND**



THE RIGHT DRIVE FOR EVERY JOB



Always in the spotlight--

Wagner

P R O D U C T S

**reflect sound engineering
and modern manufacturing methods**

Exceptional performance qualities of Wagner industrial braking systems are constantly reflected in the handling of materials and machines required for Victory.

These peace-time products have hit their war-time stride, as is evidenced wherever cranes are used. These great braking systems are maintaining a Wagner tradition for dependable performance. This same tradition is being maintained by Wagner electric motors, transformers, fans and other products making up the *complete* Wagner line.

If you need braking systems, or other products made by Wagner, consult the nearest of Wagner's 29 branch offices, located in principal cities and manned by trained field engineers.

FOR VICTORY—BUY U. S. WAR BONDS and STAMPS

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Wagner Electric Corporation

ESTABLISHED 1891

6460 Plymouth Avenue, St. Louis 14, Mo., U. S. A.

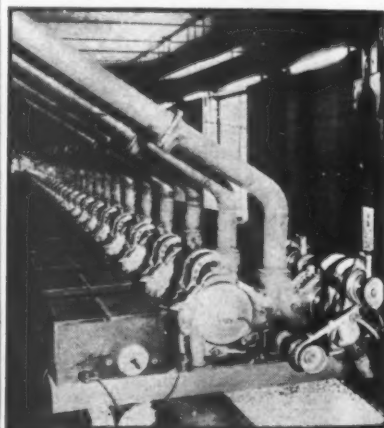
ELECTRICAL AND AUTOMOTIVE PRODUCTS

ing the popular taste of tomatoes with the outstanding food values of the soy.
● **Brewer's Experience**—National Distiller's entry into the food field accents the diversifications of Anheuser-Busch, big-time St. Louis brewer. When prohibition's pall descended on the alcoholic beverages, Anheuser-Busch tried out the dismal substitute, near-beer, then went into yeast manufacture where it remains a big producer. Recently the company announced development of "synthetic meat" made from a new type of yeast (BW—Aug. 14 '43, p. 96).

COLORED SIGNAL SMOKES

Du Pont dye experts have cooperated with the U. S. Chemical Warfare Service in the development of a series of colored smokes for signals. Five brilliant colors are available—red, orange, yellow, green, violet—in addition to black and white.

Any one color is produced by pulling the pin out of a small canister about the size of a hand grenade, after which the smoke billows forth for about three minutes, setting up for a tank or other earthbound outfit an unmistakable identification for aviators who can easily distinguish between the colors from altitudes of two miles. Because the smoke vanishes quickly, it is no help to enemy forces. Similar canisters equipped with small parachutes may be dropped from observation planes to mark enemy targets for bombing planes or artillery. Colors and combinations of two or more colors are changed from day to day to confuse the enemy.



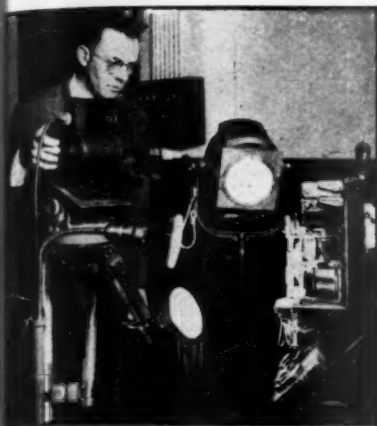
ELECTRONIC BEAN SORTER

And now electronics is doing its bit for the lowly navy bean—dietary mainstay of fighting men. At Port Huron, Mich., one of the nation's bean centers, batteries of electric eyes scrutinize 85 hundred-pound sacks an hour, tripping a device which tosses the good beans one way, and the imperfect ones (for animals) another.

NEW PRODUCTS

Research Camera

Frame speeds up to 8,000 a second, providing exposure periods of 33 millionths of a second and necessitating film speeds up to 70 m.p.h., are within the scope of Fastax, the new research movie camera developed by Bell Telephone Laboratories and manufactured



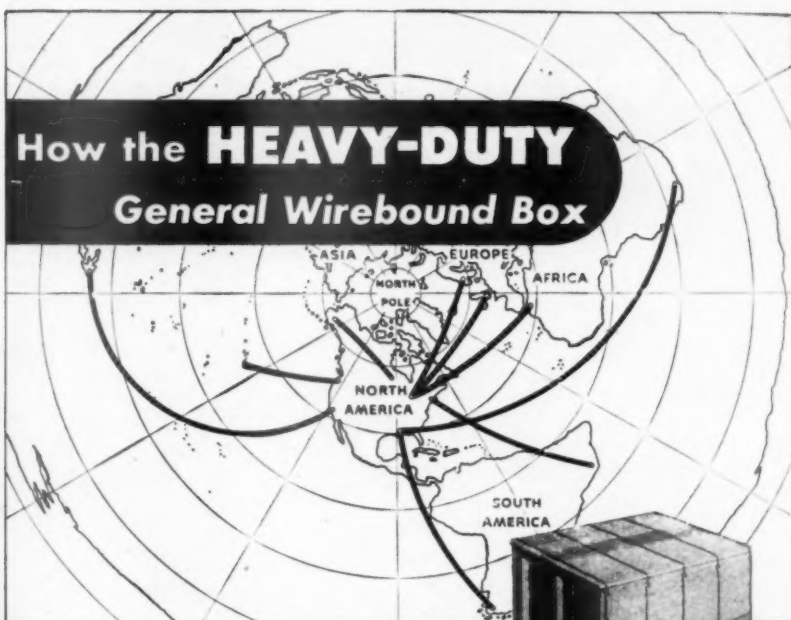
by Western Electric Co., 195 Broadway, New York 7. With such speeds it is possible to "stop the motion" of rapid mechanical, electrical, and physiological phenomena on 8-mm. or 16-mm. film and project their secrets in slow motion for close study. At 1,000 frames a second or less, the outfit will make movies in full color.

Secret of the camera's operation is a continuous film drive synchronized with an ingenious revolving prism which takes the place of the shutter in the usual stop-expose-advance type of apparatus. As the film rushes past the lens, the prism bends each successive image of the object being photographed in such a way that it falls accurately one at a time on the film in successive frames. Though such an object is normally shot under the continuous illumination of high-intensity lights, movies of self-luminous phenomena, such as the fusing of light filaments, are entirely practical.

Engine Heater

During a cold-room test, the portable new York-Heat Engine Heater, which weighs but 40 lb., warmed a 2,000-hp. airplane engine from -20F to starting temperature in 20 minutes. In a field test on a patrol bomber, the 2,000-hp. engine of which was headed into the wind, the cylinder temperature was raised 223F in 45 minutes.

Fuel is gasoline, enough of which is carried in an inbuilt three-gallon tank for five hours of operation. Heat, said to be at the rate of 90,000 B.t.u. an



How the **HEAVY-DUTY** General Wirebound Box

...solves **EXPORT** shipping problems

ROUGH sea voyages, rapid loading and unloading of merchant ships, frequent handling by careless native labor, journeys in rough riding trucks—these are but a few of the conditions that require different containers for export shipments. These are the conditions that the **HEAVY-DUTY GENERAL WIREBOUND** is meeting so successfully.

The Heavy-Duty General Wirebound box is made of $\frac{3}{4}$ " resawn hardwood lumber and is reinforced with binding wires stapled to four faces. Like the lighter domestic box, this export container provides maximum protection—minimum weight and size advantages. It is easy to pack and unpack, and has exceptionally high re-use value.

Available now only for the protection and safe delivery of war materials, the Heavy-Duty General Wirebound will, "tomorrow," solve many a peacetime export shipping problem.

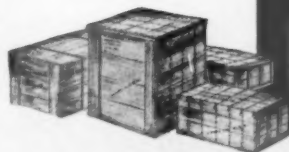
Heavy-Duty General Wirebounds are made in a wide variety of sizes and shapes—to fit the product.



Combined with new packing methods the Heavy-Duty provides protection against the elements, rust and corrosion.



Packing, handling and unpacking of shipments up to 1,000 pounds can be made faster, easier with the Heavy-Duty General Wirebound.




GENERAL BOX COMPANY

GENERAL OFFICES: 502 North Dearborn Street, Chicago, Illinois

DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Winchendon; Continental Box Company, Inc.: Houston, Dallas.

So the Signals of Battle May Shine...



 THE flare parachute is one of the many tools of modern warfare produced on Union Special industrial sewing machines. On this particular item Union Special engineers developed a machine style to handle two different sewing operations simultaneously. This is typical of the aid Union Special can give you whether you are sewing tea bags or tarpaulins, sausage casings or shelter halves. A few of the many miracles of modern sewing discussed in each issue of "The Needle's Eye", bimonthly publication of Union Special. Write for a copy . . . and let a Union Special sewing engineer help you.

Here are a few of the vital war goods Union Special is helping produce in large quantities:

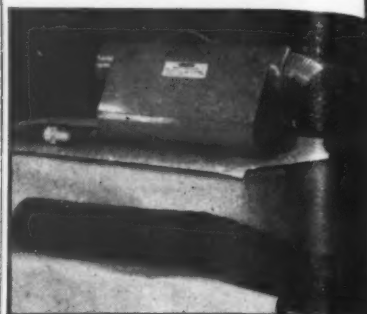
Gauze Bags	Tarpaulins	Mosquito Bars
Army Tents	Army Comforters	Tropical Hammocks
Knitted Caps	Combat Hangars	Bandoleers
Service Shirts	Tank Coverings	Nurses Uniforms
Army Cot Covers	Gun Covers	Truck Covers
Army Undershirts	Fragmentation Bomb	Sand Bags
O. D. Working Shirts	Parachutes	Army Gliders

Union Special

Machine Company

408 North Franklin Street, Chicago 10, Illinois

hour, is delivered through a collapsible duct by means of a 1-hp. motor directly connected to a vane-type air compressor. The manufacturer, York Heat Division of Thos. Shipley, Inc., York, Pa., foresees that postwar applications will range



from warming up the engines of tractors, snow scrapers, and other power equipment to de-icing winches and gondola cars and heating congealed grease in the reduction drives of almost any outdoor mechanisms.

Two-Color Hectograph

Factory, store, and warehouse forms in two colors can be made in one run on almost any spirit, liquid, or gelatin duplicator with Panama-Beaver V . . . — Union Master Hectograph Forms, patented new products of Manifold Supplies Co., 188 Third Ave., Brooklyn 17. Permanent guide lines, boxes, and instructions appear in one color; names, addresses, figures, lists, and other typed-in data appear in another color to provide a contrast which makes for easier, more accurate reading.

Miniature Blower

With its little turbo-type wheel revolving at 3,000 r.p.m., the new Plastic



Blower No. 11, manufactured by L-R Mfg. Co., Blower Division, Torrington, Conn., moves air at high speed and in a volume of 15 cfm. Right now the compact device, which weighs only 2 oz. and can be mounted directly on almost any type motor, is being used in military aircraft for cooling electronic elements.



Here are the
benefits of this plan

PROTECTION for you

- Pays \$25 per week as long as you are unable to work . . .
- Pays any and all medical, surgical and hospital expenses and nurses' fees up to \$500 for any one accident.
- Provides benefits from \$1,250 to \$5,000 for loss of limb or sight.
- Covers the 120 or more hours per week when you are not protected by company compensation.
- Gives special optional features of \$25 to \$325 for fractures and dislocations. May be written in larger amounts, if desired, or otherwise tailored to suit your specific needs.

Annual Cost,
Men . . . \$21.75
WOMEN . . \$28.25

PROTECTION for your family

- Covers unemployed women or children, 6 years and up, at all times.
- Pays any and all medical, surgical and hospital expenses and nurses' fees up to \$500 for any one accident.
- Provides benefits from \$1,250 to \$5,000 for loss of limb or sight. These sums will be doubled if loss occurs in a public conveyance or under other specified conditions.
- Provides \$500 benefits for accidental death. This sum will be doubled if loss occurs in a public conveyance or under other specified conditions.
- Gives special optional features of \$12.50 to \$162.50 for fractures and dislocations.
- May be written in larger amounts, if desired, or otherwise tailored to suit your specific needs.

Annual Cost,
Women or Girls \$15.50
Boys . . \$18.95

Learn More about this low-cost plan

For further information about U. S. F. & G.'s Double Protection Plan, you have only to fill out and mail the attached coupon. But remember, if it took you five minutes to read this advertisement, in that time one person has been killed, 90 injured, through accidents. So don't delay. Fill out and mail coupon.

THE MOST DANGEROUS SPOT in America is . . . the American home! Last year, out of a total of nearly 10 million accidental injuries, more than half took place in the home . . . another third took place in streets, schools, places of amusement, etc. . . . while less than twenty percent occurred at work! There's no place like home—for accidents!

PROTECTION—every hour, every day.

You, as a businessman, may be com-

pensated by your company for injuries sustained while on the job. But if you work 8 hours a day, it means you are unprotected for 16 hours out of the 24. More, your wife and children at home (the most dangerous spot of all) are *totally* unprotected unless covered by accident insurance. Would you like to meet a \$100, \$200, or \$500 medical bill this month?

To end the threat of unexpected and crippling medical expenses, U. S. F. & G. offers its Double Protection Plan, styled to fit the needs of businessmen or businesswomen and their dependents. This Double Protection Plan falls into two main divisions, as shown in the column at the right.

"Consult your Agent or Broker as you would your Doctor or Lawyer"

U.S.F. & G.

UNITED STATES FIDELITY & GUARANTY CO.

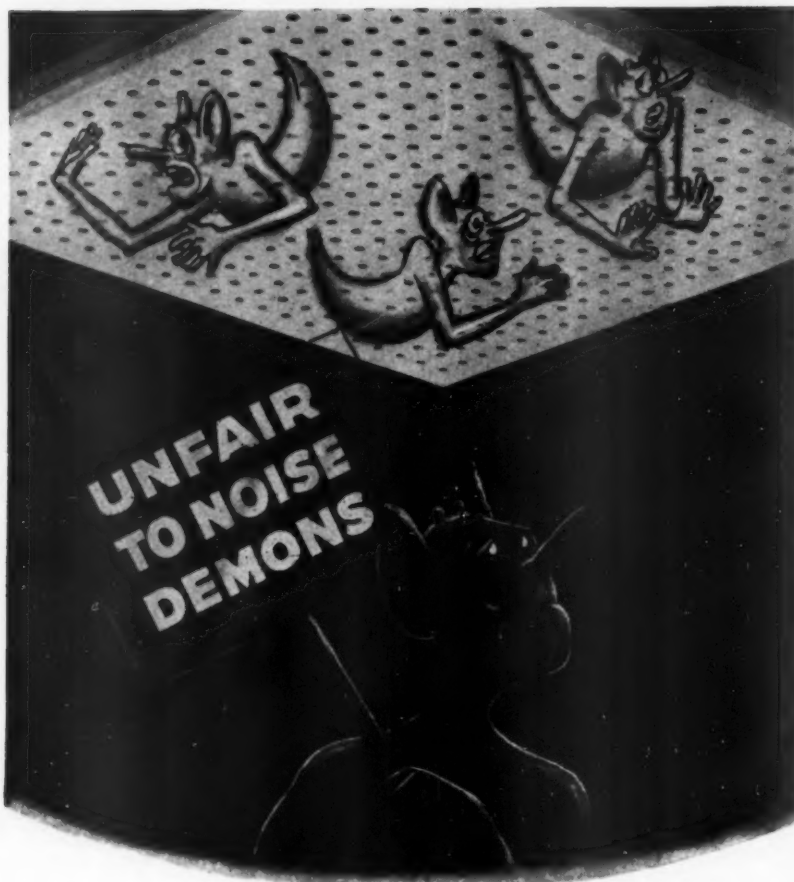
affiliate:

FIDELITY & GUARANTY FIRE CORPORATION

HOME OFFICES:  BALTIMORE, MD.

Branch Offices in 43 Cities ♦ Agents Everywhere

UNITED STATES FIDELITY & GUARANTY CO. Baltimore-2, Md.
Gentlemen:
Please mail me further information on your new Double Protection Plan.
— For Employed men or women.
— For Unemployed women and children.
Name _____ Address _____ City _____ State _____



Low-Cost Ceiling of Armstrong's Cushiontone Soaks Up Office Noise Demons

CLATTERING typewriters, ringing telephones, banging file drawers—that's how noise demons are born. It's no wonder that work slows down and errors mount up, nor that employee turnover and absenteeism are constant problems.

But noise demons die suddenly when Cushiontone is on the job. Each 12" x 12" unit has 484 deep holes which instantly absorb up to 75% of all sound waves reaching the ceiling. This high efficiency is permanent—even repainting with ordinary paint and painting methods doesn't affect it at all.

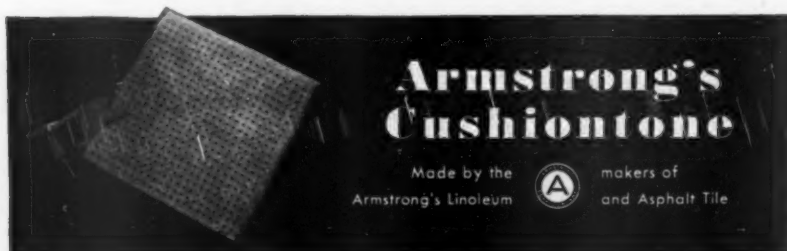
Armstrong's Cushiontone is factory-finished, ready to apply. It can be installed with little or no

interruption to office routine, and at surprisingly low cost.

Cushiontone's smooth, beveled edges are painted just like the surface—an attractive light ivory color which provides the excellent light reflecting factor of 0.73. Cushiontone has high insulating value, too.

Write for NEW ILLUSTRATED FOLDER

"How to Exterminate Office Noise Demons" is the title of a fully illustrated new folder, which will show you what Cushiontone has done for other offices. Write for your free copy to Armstrong Cork Company, Building Materials Division, 3009 Stevens Street, Lancaster, Pennsylvania.



Made by the
Armstrong's Linoleum



makers of
and Asphalt Tile

and other parts subject to overheating. When peace comes, it is expected to solve many "air circulation problems hitherto impossible of successful solution because of restrictive space," in a wide variety of mechanical and electrical applications.

Iridite

Zinc or cadmium surfaces are said to be lastingly protected against corrosion by dipping them into a water solution of Iridite for from 10 to 60 seconds and then immediately rinsing them with hot water. Resultant opaque finish, which is "too thin to be detected by ordinary measuring devices" yet "is not impaired by bending, forming, or twisting," is an olive drab color similar to that used by the armed forces. The material, which must not be used to protect containers for edible products, is furnished in concentrated form by Rheem Research Products, Inc., Baltimore, a subsidiary of Rheem Mfg. Co.

New Products Briefs

Also reported this week, not only for their interest to certain designated business fields, but also for their possible import in the postwar planning of more or less allied fields and business in general, are the following:

● **Automotive**—All-Plastic Tire Valve Caps are the newest products of Lacey-Webber Co., Kalamazoo, Mich. They are molded in one piece with an unthreaded "finder skirt" that acts as a guide to facilitate application to valves in awkward places.

● **Diesel**—Crankshafts for heavy-duty diesel engines, gas engines, and air compressors will be cast in Meehanite (high-strength iron) by the Cooper-Bessemer Corp., Mount Vernon, Ohio, and Grove City, Pa. The move, which will result in considerable savings in metal and machining, follows successful field application in a variety of lighter duty engines and a long series of confirmatory laboratory tests.

● **Metalworking**—The Sheffield Corp., Dayton 1, Ohio, has two new machines ready for the market: the Sheffield Ball-Bearing Checker and the Sheffield Precision Thread Grinder. The checker sorts balls from $\frac{1}{8}$ -in. to $\frac{3}{4}$ -in. diameter at speeds of 15,000 to 20,000 an hour, segregating them into ten classifications: undersize, oversize, and eight successive steps, each 0.00005 in. larger than the preceding classification. The grinder, which uses either a conventional single-ribbed wheel or a multi-ribbed wheel, will grind practically any type of single or multiple thread with any pitch up to 60 turns to the inch. Maximum work size that can be swung between centers is 12 in. long and 7 in. in diameter; maximum threaded area produced is 8 in. long and 3 in. in diameter.

MARKETING

Kitchen Gestapo

OPA to double its army of 25,000 volunteer price police recruited among housewives; the emphasis is on education.

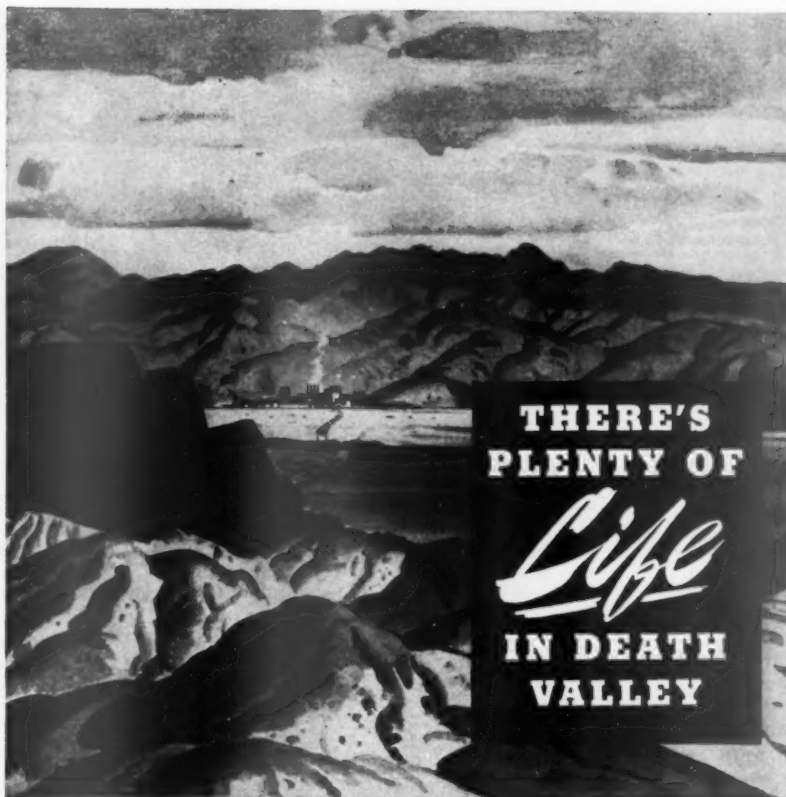
After four months of experimentation with volunteer price police, OPA has decided that 50,000 consumers (mainly women) can successfully patrol the most urgent retail price programs at virtually no cost to the taxpayer. Some 25,000 "price panel assistants" (as OPA calls the volunteers, or "Kitchen Gestapo" as a few members of Congress have dubbed them) already are on the job. They have poked into rising food prices for a starter, clearing up the majority of detected violations without squawks from the grocers or recourse to litigation. On the basis of that performance, OPA thinks it can double the army without being smacked down by Congress.

Qualms about the Women—OPA has had to resort to volunteers because Congress refuses to give the price agency the professional gumshoes that are used to combat inflation in England and Germany. On the other hand, OPA has had plenty of qualms about adopting the volunteer tactic. Excitable women might beat some unsuspecting grocer's ears off, or summarily drag him into court. Further, OPA knows perfectly well that its regulations—even after a lot of simplifying—are still in such a state that no ordinary human can observe them 100%.

So the volunteer setup has been devised as a compromise between policing and educating, with the emphasis on educating. Legal procedures (which, in the case of the Emergency Price Control Act, are tricky at best) have been left out of the picture almost entirely.

Price Panels Control—Keystone of the new volunteer program is a so-called price panel attached to each rationing board. The panel is usually composed of three or four members, including a representative of the public at large, a business man, a professional man, and somebody from the ranks of farmers or laborers (depending on the type of community).

The duties of the panel are those of a board of education, an information bureau, a pep club, a domestic court, and a wailing wall for the oppressed. But probably the No. 1 function is that of working on some persistent price violator's conscience so that he mends his evil ways. If (as rarely happens) he doesn't, the price panel can throw him



More than ever today, the name Death Valley is a misnomer. For this important section of California is contributing heavily to the mineral resources of our nation at war.

It is a war which is completing the transformation of this once largely agricultural state into one of the great industrial areas of the country, where the annual net value of manufactured products is more than two and a half billion dollars.

In this vast growth, the banking services of this California-wide institution have been important . . . and they can be important—and valuable—to you, to any businessman or banker who wishes to develop his own interests and opportunities in this rich market of 7,500,000 people.

Bank of America

NATIONAL TRUST AND SAVINGS ASSOCIATION

MEMBER . . . FEDERAL RESERVE SYSTEM—FEDERAL DEPOSIT INSURANCE CORPORATION

Main offices in two reserve cities of California . . . San Francisco - Los Angeles



Blue and gold BANK of AMERICA TRAVELERS CHEQUES are available through authorized banks and agencies. They are acceptable everywhere. Carry them when you travel.



Many present day industrial stores, in addition to offering a wide variety of items, boast soda fountains, restaurants—even theaters. But the hottest item is still food, constituting 75% of total sales. Although a majority of the



larger stores now offer open credit accounts, the pay-in-deduction method of collection remains the backbone of the company store merchandising despite sharp criticism aimed at the system in recent years.

into the arms of an OPA attorney who will slap a suit on him.

• **They Pound Pavements**—Eyes, ears, and legs of the price panels are the price panel assistants. The assistants pound the pavements four to ten hours a week from store to store, armed with posters, price data, notebooks, and an admonition to keep their tempers in check. Many of them come from the ranks of the Office of Civilian Defense, but the unions, churches, and fraternal organizations also supply a good number. Professional consumer sympathizers have a very low representation.

The career of a panel assistant begins with a brief education course on correct retail prices, the computing of them, and the proper posting. Often the training session takes place in a real store, turned over for laboratory purposes by a friendly merchant. Thereafter, the assistant is assigned a beat which she is supposed to cover regularly.

• **Help Compute Prices**—On their appointed rounds, the assistants check about eight or ten price groups each week—that is, coffee, oranges, etc., one week, and meat, butter, etc., the next. They help grocers compute proper prices when the grocer lacks the know-how, and they personally deliver all the necessary posters and regulations issued by OPA. Merchants get nothing but gentle advice for initial violations; the second time, they get a slightly firmer admonition; the third time, they are turned over to the price panel for a man-to-man talk; fourth and succeeding violations generally mean that an OPA attorney gets on the trail.

In the big communities, the assistants almost invariably confine their activities to the grocery trade, although they expect to add new lines later. In smaller cities, they watch durable goods sales, auctions, laundry prices, food prices, and even transactions in farm machinery. The great majority of merchants

gets on splendidly with the assistants. Some retailers heroically make refunds to their customers after over-the-ceiling prices are detected, and a couple of conscience-stricken storekeepers have even sent contributions to the U. S. Treasury.

• **Women Hang On**—One big OPA worry about its price panel assistants—how to keep them from quitting after a week or two—so far has only half materialized. Turnover rates are not officially measured, but they appear to be as low as 7% in some places, as high as 50% in others. OPA has thought of pins, buttons, diplomas, and other decorations as morale builders, and an award of some kind may eventually have to be adopted. Also, better coaching by paid OPA employees would help.

A much more imminent worry, however, is how to get the women to police clothing prices. The latter are not under the so-called “community ceilings” but are based on a legion of separate regulations which only a C.P.A. can understand. The best suggestion to date is to give a few women a longer, more difficult training course before letting them loose on department and specialty stores.

• **Are They Effective?**—How much the volunteers have helped bring down the cost of living by stamping out black markets OPA doesn't know, though it has several clues. In Washington, D. C., for instance, the volunteer assistants reported in June that 54% of food stores committed at least one price violation on a list of twelve items. Two months later, the figure was down to less than 20%.

Progressive cleaning up of over-the-ceiling transactions will have a long-term tendency to stabilize the cost of living, make consumers price-conscious. Aside from that, the ladies are releasing OPA's handful of paid policemen for concentration on the middlemen.

Billion-Dollar Baby

Company stores are big business. They've survived one probe and are ready for anything OPA or Lewis may throw

If John L. Lewis fails to get a substantial wage boost for his miners, persons who are familiar with his tactics expect him to slap company stores back on the griddle. He made them a red hot issue last spring during negotiations for a new wage contract by giving them a generous part of the blame for the miners' high cost of living.

• **The First Target**—The stores' operators know from long experience that whenever unrest travels among the mining patches, the “damn company store” becomes the first target of the miners' discontent. They withstood two investigations last spring, one by OPA and one by a three-man committee appointed by Coal Mines Administrator Harold L. Ickes.

OPA's survey of 475 stores (100 of them company stores) in 230 mining towns wound up with the report that prices on items checked averaged about 5% above ceilings and that “the level of compliance in most of the company stores appears to be above that maintained in the independent stores.”

• **4,200 in the U. S.**—The modern “industrial store” (as most operators prefer to have it called) is a far cry from the badly run, tumbledown company store of 20 or 30 years ago. Company stores are big business. There are some 4,200 of them in the United States, and their total annual sales volume is estimated at about a billion dollars. About 67% of them are run by coal companies, about 15% by lumber companies. Steel companies, textile mills, and isolated

Do You Like Your Cigarettes *FRESH?*



Most Americans don't like dry cigarettes—smoking a cigarette in “fresh” condition is much more to the American taste. And this means a cigarette with just the right amount of moisture content.

Keeping cigarettes conditioned within moisture limits, both on the store shelf and in the consumer's pocket, is a perpetual problem with cigarette manufacturers. The conditioning agent must do its job as long as possible—under all sorts of moisture conditions, ranging from low to high humidity. Furthermore, it must be tasteless and non-toxic. Unless the conditioner is right, the smoker may find his cigarettes in any condition—dry, crumbly and sharp-burning, or too soggy and acrid for smoking comfort.

Conditioners now used have certain disadvantages. Excessive moisture is absorbed at high humidities, while moisture is lost at low humidities. Consequently, cigarettes vary widely in moisture content and in pleasure for the smoker.

Synergistic* thinking has suggested an Atlas product, Arlex, to overcome these difficulties—with a plus-value to the smoker. At low humidities, Arlex gives off less moisture; at high humidities, it absorbs relatively little. It is a moisture stabilizer that gives the smoker cigarettes that stay in condition longer. This is a plus-value in itself—but more, Arlex is completely non-volatile, has no unpleasant taste, is non-toxic, and does not produce throat-irritating acrolein. Synergistic thinking will add pleasure to smoking when Arlex once again becomes available for peacetime use.

If you have a problem which falls within the range of Atlas activities, we should like to tackle it with you by way of a synergistic approach. Synergism is going places these days.

***Synergism**—the meeting of minds “clicking together” from the impact of ideas to give a result greater than the sum total of the ideas expressed—a “2 plus 2 equals 5” result. Synergism is a big help in making product improvements.

Arlex: Reg. U. S. Pat. Off.

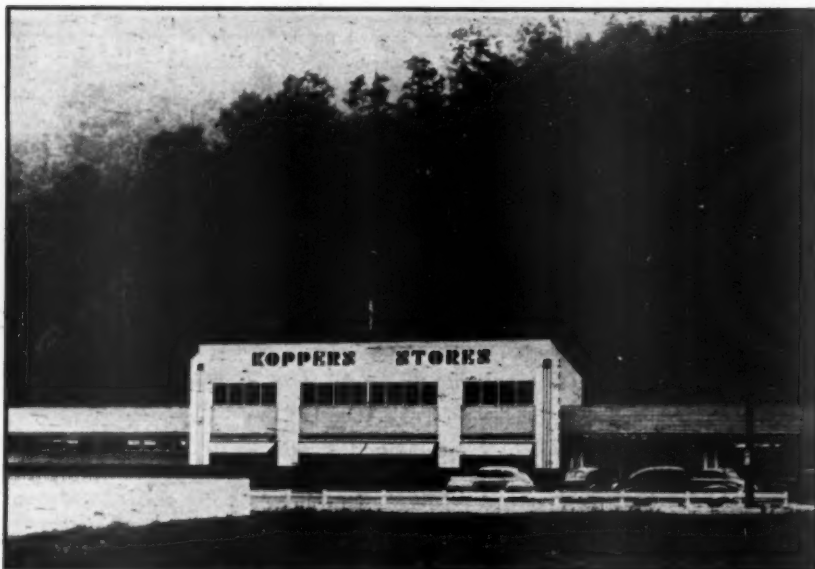


ATLAS

POWDER COMPANY
WILMINGTON 99, DELAWARE
Offices in Principal Cities

Industrial Explosives • Industrial Finishes • Coated Fabrics • Acids
Activated Carbons • Industrial Chemicals • Ordnance Materiel

Copyright 1943 Atlas Powder Company



mining camps always have had a good share of them.

Over 1,000 of the stores, accounting for more than 50% of the total volume, are members of the National Industrial Stores Assn. N.I.S.A. figures that the average company store has annual sales of \$250,000, but some individual stores like the Champion Fiber Co. operation at Canton, N. C., and the J. C. Bright Co. at Lansford, Pa., take in nearly \$1,000,000 a year. The 84 stores of U. S. Steel's store subsidiaries (Union Supply Co. and United Supply Co.) do a \$20,000,000 business.

• **"Mail Order" Offices**—The up-to-date company store today carries not only food but also wearing apparel, house furnishings, hardware, appliances, and drugs. Some include service stations, restaurants, and theaters. Koppers Stores recently have opened 15 "order offices" in communities where the company has a number of employees but which are not primarily Koppers' towns.

About 75% of the average company store's sales is food, 15% is durable goods (mostly appliances), 10% soft goods. Company stores always have had a big appliance business because

Yesterday's company store (left) was a drab affair; many still are. But a growing number of industrial stores are modern department marts offering clothing and household goods in addition to food, with some individual stores grossing up to a million dollars a year. Estimated total sales in the nation's 4,200 company stores, 67% operated by coal concerns, come to a billion dollars annually.

they put no carrying charge on time purchases. And because of the importance of appliance sales, the volume of most company stores is now lagging about 10% behind last year.

• **98% on Credit**—N.I.S.A. estimates that 98% of all company store sales are on credit terms of one kind or another.

Lately, the stores have been swinging over to open credit accounts, similar to those extended by any department or retail store, and away from "over-the-payroll" collection.

N.I.S.A. claims that it does not have a single member store which does not now offer open credit instead of over-the-payroll deduction at least to older employees. And the association figures that most of the bigger company stores now do at least 50% of their business on an open credit basis.

• **Good Business**—But payroll deductions still remain the heart of company store merchandising. They are also the storm center of most of the blasts which have been aimed at company stores over the years. Most recent of these was Eleanor Roosevelt's charge that the stores "tend to keep people always in debt; and those who are in debt never are free agents."

Operators generally believe that pay-

roll deductions are good business because they enable a company to carry its employees through bad times—the fact that the stores have fed the miners and their families during depressions and even during strikes is a matter of pride with most companies.

• **Purchases Held in Check**—Companies claim that, at least in times like these, payroll deductions for store bills are not exorbitant. Most companies now keep a pretty close tab to see that credit purchases don't run too high. Some have a rule that at least \$5 every payday (every two weeks) must be paid a minimum in cash, after deductions for store bills, rent, union dues, etc. The 10,523 miners of Koppers Co. spend between 20% and 25% of their pay checks in the company's stores. In March, 1943, they had an average of \$137.12 in their pay envelopes after all deductions.

Another company, 63% of whose employees have charge accounts at its stores to be deducted by checkoff, reports that 12.8% of the total payroll is deducted for store purchases.

• **Favoritism Charged**—Other charges commonly leveled at the company stores are that employees who do not patronize them are likely to lose their jobs, that mine superintendents, union leaders, and other favored individuals get special discounts, that stores are lax in such matters as giving out itemized receipts.

On many points of criticism even the best company stores are highly vulnerable. They are a high-cost operation, and even a big company's bulk buying power generally doesn't offset the high margins which go with a business that is practically 100% credit. The miner who pays his food bill promptly must meet a price that takes into account the miner who is buying a refrigerator on time. Even when a store is operated by a subsidiary of the parent company, its accounts are so mixed up with the parent's balance sheet that it is generally impossible to tell what part of the prices employees pay is clear profit.

And while well-stocked modern stores now appear to be the rule rather than the exception, the old-time commissary, run as a sideline by the paymaster's clerk, hasn't completely disappeared. Progressive store managers accept criticisms, but they point to changes like the wider use of open credit to prove that company stores have come a long way in the last few years.

• **Troubled by "Shrinkage"**—Stores are adopting self-service food departments. Koppers now has self-service in about half its 34 stores. Also, most stores now have open displays of almost all merchandise. Chief deterrent to wider use of self-service and open displays has been the prevalence of "shrinkage" or theft, an item which looms disturbingly large in almost any company store's budget.

A noteworthy innovation of the past



Picture you at 20,000 feet . . .

flying in living room comfort



You are in a postwar airliner. You are flying high above the storms . . . in air nearly twice as thin as at sea level . . . in cold as low as minus 50° F.

Yet you're not the least dizzy. Your ears don't pop. You are as comfortable and relaxed as in your own living room!

This is not a dream. It is definitely the kind of air travel comfort you can expect in the AiResearch-pressurized cabins of postwar airliners.

AiResearch engineers have been on this project since long before the war. In our giant "Stratolab," they've created "altitudes" as high as 65,000 feet,

temperatures below minus 90° F and air that is eight times more rarified than on earth!

Extreme conditions, yes; but these engineers have learned to control them. With the AiResearch-pressurized cabin, they will literally maintain a low altitude inside an airliner's cabin while

the plane travels above 20,000 feet!

And in the peacetime days that are ahead, our ever-widening experience with air control will contribute to your better living *on the ground* as well as in the *skies*. Keep AiResearch in mind. It is one of the newer trade names you're going to learn to know well.



"Where Controlled Air Does The Job" - Automatic Exit Flap Control Systems • Exhaust Heat Exchangers • Engine Oil Cooling Systems • Engine Air Intercooling Systems • Supercharger Aftercooling Systems

Aviation—A Progress Report

The Lessons of War Become the Key to a Richer Peace

TUNISIA, PANTELLERIA, SICILY — stepping stones to momentous events! But that is not all. For they spell out across the blue waters of the Mediterranean a pattern of invasion that has progressed far since last summer's first major Commando operation against the French coast.

From Dieppe, you remember, too many of the raiders never got back. But in Tunisia, and on through Sicily, the Allied might plowed inexorably forward, winning objective after objective at a surprisingly low cost in casualties. Air supremacy over the battlefield? Yes. But we have learned, too, how to save lives and shorten the war by strategic air bombardment as a prelude to invasion.

Thus the bombardment plane—rarely seen by the doughboys on the fighting fronts—is destined to save their lives by hundreds of thousands in the decisive attacks that are to come. This fact is confirmed by the cold calculations of the responsible strategists. It will give renewed courage and confidence to every member of the armed forces and of the home fronts throughout the United Nations.

For instance: thorough strategic bombardment of an objective reduces by nearly fifty per cent the surface forces required for invasion. Anticipated losses are reduced from more than fifty per cent of the original ground force to about twenty per cent. Precision bombardment—as used on railroad objectives in Rome—reduces this percentage of loss still further when it is followed by offensive action on the ground.

This is the fifteenth of a series of editorials appearing monthly in all McGraw-Hill publications, reaching more than one and one-half million readers. They are dedicated to the purpose of telling the part that each industry is playing in the war effort and of informing the public on the magnificent war-production accomplishments of America's industries.

The inference is clear. Effective prosecution of the war will require smaller ground combat forces and much larger air forces than some of our strategists once thought.

Our most urgent need, then, is for ever-mounting fleets of aircraft. And, fortunately, this is just what we are getting. The American aircraft industry now is producing as many airplanes as all the rest of the world combined. In 1938 we made 100 planes a month. Now we make three times that many in a single working day. By the end of 1943, our production rate will be about 10,000 a month.

But at this stage of the war, types of planes are more important than mere numbers. In the early months the program was heavy, and properly so, with single-engine trainers. Then, as training planes accumulated, the emphasis shifted to heavier types. Now we are turning out multi-engined bombers at a rate that is the envy of

the entire world. Some months ago the President revealed that we were manufacturing 500 long-range bombers every month. The figure was conservative even then. And soon we shall be producing planes of this one type at a rate adequate to replace the normal losses of a fleet of at least 1000 American heavy bombers operating as continuously as the weather will permit.

A glimpse of the poundage production may help us still further to evaluate the miraculous achievements of the aviation industry as a whole. It was 89,000,000 in 1941 . . . 291,000,000 in 1942 . . . 911,000,000 in 1943 . . . and 1,417,000,000 in 1944

if we need it. There you have the magnificent record of the American aircraft manufacturing industry — a monument to the cooperation of industry, labor, government; and to all-out teamwork between the aviation industry and those other industries which have converted their facilities to the manufacture of airplanes.

What of our enemies and our Allies?

German production probably has flattened out at 2500 a month — with downward revision in immediate prospect. Japan may be able to produce as many as 1000 planes a month — until we get our new long-range super-bombers in sufficient numbers to whittle down that figure. Italy may be able to turn out her 500 a month — for a little longer. At best the maximum Axis monthly total is 4000.

Add to our monthly score of nearly 8000, a total of approximately 4000 for Britain, Canada and Russia, and the United Nations score comes to 12,000 monthly. There we have a three to one advantage for our side. And between our own rising production and the brilliant operations of our bomber commands we should soon boost the ratio well above that figure. Therein lies the certainty of continued and growing air superiority over all the air-fung battlefields.

The critics of American airplane quality have been silenced ever since the ratio of enemy combat losses to our own on bombardment missions surpassed four to one. In the Pacific where our heavily armed and armored planes are knocking off the desperately stripped racing craft of the Nipponese, enemy losses often run as high as eight to one or more. In the Mediterranean theater, where the Italians were abandoned by their Allies, the story is much the same. Only in the well-defended homeland of the Nazis do we sometimes drop below the average, but even in those rare instances the ratio is still well in our favor and the effectiveness of our bombardment is adding constantly to our margin.

* * *

Behind the production lines the battle of research and design still rages. In many a laboratory night-shift, on many a secret test field, new and terrible surprises for the enemy are in the making. Super-bombers, destined for Tokyo, have long since passed


out of the design stage and the Japanese may learn about them almost any day. New discoveries, designed to sow swift and silent devastation, are farther along than our enemies believe. No longer will fog or storm or night be permitted to fight on the side of our foes.

The men of science who are toiling to broaden the horizon of our knowledge stand today on the threshold of discoveries that have been sought for centuries. New reservoirs of power may soon exert a profound influence in many fields of technology and through them on our way of life.

Once the war is won these new discoveries will be translated into better living. No longer will countless thousands spend their lives within their own communities or countries. New efficiencies in transportation will bring world travel within the reach of many who once had to stay at home. New family vehicles will navigate the skyways as easily and safely as the highways. Already more than a dozen manufacturers of airplanes, ships, automobiles, and electrical equipment are designing, building, or flying rotary-winged aircraft such as the helicopter or autogyro to meet the needs of tomorrow's families. New and safer aircraft of the fixed-wing type are ready for production as soon as materials become available.

The quality that now makes each of our war planes worth so many of those built by our enemies will be translated into the sturdy reliability demanded by peacetime operation. The devices that seek out and find our enemies behind the veil of fog or darkness will, after the war, reduce weather hazards to the point where they will be no greater in the air than on the ground.

Science and industry will continue to do their jobs and do them well. But if the world is to be made a better place for men to live in, statesmanship must not fail to do its part.



President, McGraw-Hill Publishing Company, Inc.

AROUND THE MAP WITH RETAIL FOOD COSTS

Per cent increase between Jan., 1941 and July, 1943 in 56 U. S. cities



Data: Bureau of Labor Statistics

© BUSINESS WEEK

few years has been the hiring of men with merchandising experience as store managers. They are gradually replacing the payroll clerks and auditors, who might know the coal, or textile, or lumber business but who didn't know retailing. Examples of this new policy are men like Paul C. Jamieson, Koppers' merchandise manager, who came from Interstate Department Stores, and J. S. Replogle of Federal Supply Co., who came from L. Bamberger & Co.

However much company stores may go over to modern merchandising methods, they cannot overcome the basic difference between the company store and retail operations—the fact that the company store is essentially a paternalistic enterprise and as such will always be vulnerable to attack from critics who

decry the whole philosophy of industrial paternalism.

• Government Operation Is Feared—Ickes' action in returning the mines to their owners is relieving store operators of one worry. When the mines were operated by the government, so, nominally, were the stores. And it looked for a while as though government operation might force some drastic reforms in company stores. Some officials even maintained that company stores should be operated without profit. N.I.S.A. declares that, even disregarding the heavy investment owners would forfeit if this were done, nonprofit operation would lead to trouble. Nonprofit company stores have been tried—Henry Ford had one—but the protests of independent merchants usually finish them.

Car Cards Score

Sharp increase in trans-
riding pulls space sales up, as
association plans media ad-
to keep advertisers sold.

Until the war boom came along, the nation's car card business—like the transit industry on which it depends—had seen better days. But with bus, trolley and subway lines rolling up unprecedented totals (page 37), transportation advertising, an industry only recently emerged from the doldrums which followed the collapse of Barron Collier's empire, is skyrocketing. Increases in fact, all out of proportion to the prosperity of transit lines.

• Program of Research—Hopeful that last year's \$13,000,000 business will not succumb to a postwar slump, the industry's year-and-a-half old trade group, the National Assn. of Transportation Advertising, Inc., has made an appropriation for a national market research project which is counted on to clinch the industry's position as an advertising medium. The proposed survey is designed to show whether the field is susceptible to the same kind of audited media search with circulation "guarantees" the outdoor boards and radio now boast and ultimately to establish a uniform procedure for showing the national advertiser whatever he wants to know about the medium.

Heretofore, studies made in various cities and by different companies have not been comparable. For example, a survey for the New York Subways Advertising Co. by Elmo Roper in 1942 showed that the average rider took the subway 26 times a month, and that the average ride was 23½ minutes (or six subway miles). Most of the numerous surveys in other cities, on the other hand, do not analyze ridership as did Roper, but test readership of specific car cards by methods usually employed for magazine advertising.

• Convincing Story—For the time being, business records themselves make pretty convincing sales talk. N.A.T.A. estimates that the first six months of 1943 ran about 50% above last, with circulation (counted in fares paid) still soaring, and manufacturers continuing to realize that war wealth is going into the pockets of the people who ride the subways and buses.

Most spectacular sales increases have been in the not too metropolitan war centers. Providence, R. I., with a population of 253,000 and 504 vehicles showed a 122% increase in the first six months of this year on top of a 74% increase last year. San Diego, Calif., did 71% more business in the first six months of this year than last. In 1942

ales were 25% above 1941 which in turn showed sales 54% over 1940.

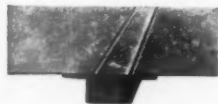
Some Other Big Gains—Other cities in which transit advertising groups report dramatic increases for the first six months of this year are San Francisco, where business is up 40%; St. Louis, where sales increased by 53%; New Orleans, up 25%; Wilmington, Del., 19%; Newark, N. J., 62%; and Milwaukee, 25%.

Space rates for car cards are based on anything from 3¢ to 9¢ per thousand. Cost for a representative run in the New York subway systems—using an 11x21-in. card in half of all cars for three months—would cost \$4,420.80, exclusive of the cost of cards which the advertiser always furnishes.

Supplemental Medium—Much as their business has expanded, transportation advertising men have no illusions about constituting a threat to major media. On the contrary, they not only carry radio and newspaper advertising, but also encourage use of car cards as the supplementary medium in a combination campaign. This technique is used



YOU CAN TRUST YOUR LIFE -on a sheet of steel only 1/56 of an inch thick



Lindsay Structure, with its "pre-tensed" sheets, achieves extraordinary strength and lightness. It is quickly and easily assembled by inexperienced workers.

No special tools are required. Lindsay Structure units are absolutely uniform and can be built to 1/2 inch of any desired size—easily disassembled or reassembled—easily repaired.

Here is a demonstration of the great strength made possible by the modern method of light steel construction—Lindsay Structure.

By utilizing the strength in light sheet metal, this 30 ft. chute made of 26 ga. sheet easily supports four men. There is no sagging! In fact, the I-Beams (arrow) with which unbelieving engineers expected to support the chute actually sag away from it under their own weight. Thus, Lindsay Structure, with its amazingly high strength-weight ratio, makes possible tremendous savings in steel. It also saves production delays and skilled labor. No special tools or equipment are required—no tooling up to handle its assembly.

For buildings, truck and trailer bodies, refrigerated boxes or rooms—for partitions, housings, and many other applications—investigate Lindsay Structure.

Lindsay Structure will render immediate service on your pilot jobs. Wire or phone for information. Lindsay and Lindsay, 222 W. Adams Street, Chicago 6, Ill.; or 60 E. 42nd St., New York 17, N. Y.

BUY WAR BONDS

LINDSAY STRUCTURE

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending
For details, see Sweet's Catalog File

LINDSAY STRUCTURE CAN SAVE THOUSANDS OF TONS OF STEEL PER MONTH



CARTON CONSERVATION

With the ways greased by price ceilings (BW—Jul. 31 '43, p. 75), WPB is preparing to launch a conservation campaign for returning containers to packers for re-use. A number of concerns are jumping the gun, however, with voluntary plans to buy back from customers containers normally discarded. Typical is a scheme whereby Sherwin-Williams Co., Chicago, pays for its returned cartons for refills. The company's posters inform customers' shipping clerks of the new plan.



NEW Different Chain Blocks

HERE is a Chain Block that is brand new. Unfettered by designs of the past, it expresses modern mechanics at their best.

It is built by the makers of 'Budgit' Hoists and is a revolutionary advance in Chain Block design and construction.

'Budgit' Chain Blocks are manually operated portable hoists which weigh, size for size, much less than other standard spur-gear blocks. The smallest weighs but 48 lbs. and the largest, with which a man may lift two tons, weighs only 81 lbs.

They hang in perfect balance with or without loads. The mechanism is completely enclosed and packed in grease so that the lubricant stays in and dirt and dust are kept out. Even the hand wheel is protected.

Lightness of weight is obtained by the liberal use of alloy steels; easier operation by the use of anti-friction bearings; smoother lifting by the use of a roller type load chain that does not stretch, stiffen or bind; perfect control of the load, by an improved automatic brake that prevents the load from descending except at the will of the operator.

'Budgit' Chain Blocks are built to lift up to $\frac{1}{4}$, $\frac{1}{2}$, 1 and 2 tons and prices start at \$59.50 list. Send for Bulletin No. 357 containing complete information.



'BUDGIT' Chain Blocks

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of 'Shaw-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of Ashcroft Gauges, Hancock Valves, Consolidated Safety and Relief Valves and 'American' Industrial Instruments.

by a substantial number of advertisers, notably Wrigley chewing gum, Pepsodent tooth paste, Chesterfield, and Alka-Seltzer.

This is chiefly poster type advertising, but there is a growing emphasis on editorial copy. The average transit ride, according to surveys, gives passengers time to read all the ads in sight including editorial cards which run to 250 words.

• **Want More National**—In general, about 30% of car card revenue comes from national advertising, and 70% is sold locally. Most companies would like to see something more like a 50-50 ratio, and N.A.T.A. hopes to come closer to it.

For the duration, about 15% of the nation's total car card facilities are "sold" to the Office of War Information. The 100,000 spaces turned over to government campaigns every month constitute a pool for which OWI schedules insertions on the same basis as a rate-paying advertiser.

• **No Ditching of OWI**—N.A.T.A. is simply a clearing house for regular OWI campaigns—Third War Loan in October, Food for Freedom in November, etc. Neither N.A.T.A. members nor some 60 or 70 smaller companies participating in the pool can sell space assigned to OWI and make up for it with another donation next month when there is an extra space.

Actually, this interferes with sales in only a few war industry cities where buses predominate. In big cities, where trolley and subway cars have more car

card space than buses have, there is still space to spare for local contributions and "editorial" matter—an important feature in New York and San Francisco transit systems where certain editorial departments such as household hints and local historical facts are regular features.

FTC KEEPS WORKING

While the war agencies make the headlines, the Federal Trade Commission grinds away. Grist from its mill includes:

(1) A complaint charging Associated Merchandise Corp., New York City, and its 21 department store owner-members (among the biggest in the U. S.) with violation of the Robinson-Patman law. FTC labels "discriminatory" the rebates stores receive on purchases made through A.M.C., charges that these price concessions are in violation of section 2(f) of R-P.

(2) A cease-and-desist order against Dentists' Supply Co., New York, largest U. S. manufacturer and distributor of artificial teeth. FTC charges that the company's discount plan (including an annual "bonus" in the form of free false teeth to purchasers of over \$1,000 worth of supplies) violates R-P.

(3) A complaint against the Rock Crusher Mfrs. Assn., Cedar Rapids, Iowa, and the Associated Equipment Distributors, Washington, D. C., charging monopolistic price control and collusive bidding on government contracts.

MEN and WOMEN WANTED

Take One

To learn airplane servicing and repairing.
Good pay while learning. Many permanent
jobs available in world's fastest growing industry.

Also openings for:
 MECHANICAL - ELEC - OTHER
 MECHANICAL - STENOGR
 CIVILIAN AND MILITARY

NORTHWEST AIRLINES

1935 UNIVERSITY AVE., ST. PAUL

Persons now employed in an essential industry, please do not apply

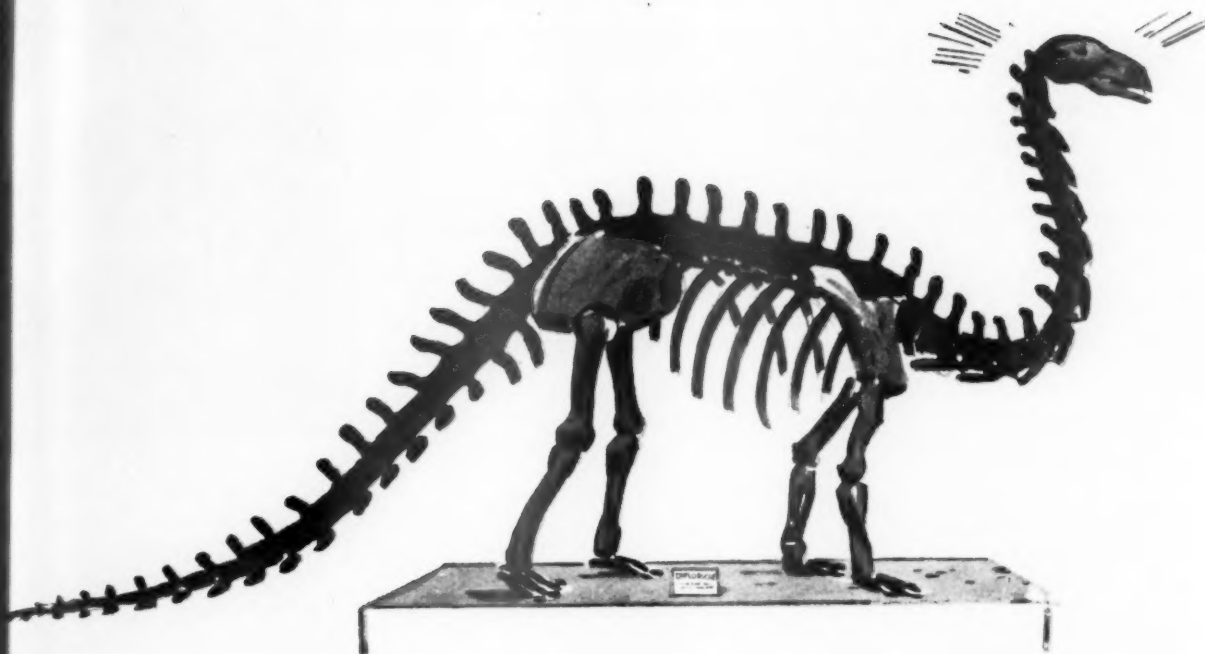
NORTHWEST AIRLINES
 EMPLOYMENT OFFICE
 1935 UNIVERSITY AVE., ST. PAUL, MINN.
 OPEN 9:00 A.M. TO 5:00 P.M.
 MON. - FRI.

Transit company "house ads" designed to recruit personnel brought forth more paid advertising from other industries in the same manpower boat than applicants for bus drivers' jobs. Northwest Airlines' card in St. Paul

furnished application blanks (above). Car cards' biggest war job is done by OWI which will follow the Third War Loan campaign with copy tuned to regional problems like fire prevention and the housing shortage (below).

OUR CARELESSNESS Their Secret Weapon

PREVENT FOREST FIRES



Diplodocus forgot to change his mind

WE'D PROBABLY have a lot of Diplodoci with us today instead of fossilized in the Rocky Mountains, if they hadn't been so stubborn.

But somehow it didn't seem dignified for a Diplodocus to fool around with this new-fangled "Evolution" stuff. And so the Diplodocus achieved the final dignity of all time—extinction.

Which is all very nice for the paleontologists (fossil-collectors to you). But short-sighted policy for a Diplodocus...

Or a business man. Like the Diplodocus, he sometimes holds the goal of dignity so close to his eyes he forgets his real goal—vitality. Some go so far as to pass up an advertising medium like Puck-The Comic Weekly, because of a fancied lack of "dignity." Yes, it happens.

Which is silly, of course. Good humor and high adventure have the dignity of the whole human race in them. The editors of Puck in bringing Walt Disney's irascible, lovable "Donald Duck" to millions of readers every week are following a well defined blueprint for giving America its most entertaining weekly. Add "Bringing Up Father" starring Jiggs and Maggie; "Blondie" and her irrepressible Dagwood; "Tillie The Toiler" who has set many a style; "Believe It or Not!" authored by famed Bob Ripley; "The Katzenjammer Kids", America's most famous practical jokers, and it explains why Puck is the most thoroughly read publication of its kind in America.

When choosing a medium to carry your advertising message—whether institutional or sales promotional—keep these facts in mind:

1. More people (men and women as well as children) read "the comics" than any other one form of entertainment feature.

2. Visibility and readership are unusually high because Puck-The Comic Weekly accepts only a limited number of advertisements per issue. Space in Puck is a valuable franchise.

3. Puck produces results. In 1939 one of the country's leading manufacturers of soap and quality cosmetics tested Puck-The Comic Weekly with 3 advertisements. Each year the schedule has been increased. In 1943 this advertiser is spending \$125,000 in Puck.

Puck-The Comic Weekly is distributed to more than 6,000,000 families through 15 great Sunday newspapers from coast to coast and is read by over 20,000,000 people—men, women and children.

Sales minded executives with an eye to the future should ask to see and carefully consider Puck's analysis of "Your Customers of Tomorrow", a sound presentation chock full of sales information. Puck-The Comic Weekly, 959 Eighth Avenue, New York—Hearst Building, Chicago.

LABOR

Brewster's Tangle

Coast Guard seizure of defiant plant guards precipitated Hatboro strike; it's over, but another may be in the offing.

After ignoring the 30-day "cooling off" period required by the Connally-Smith Act in staging an unauthorized four-day strike last week, all but four of the more than 6,000 employees of Brewster-Aeronautical Corp.'s Hatboro (Pa.) plant resumed production of Navy planes pending further strike action.

● **Held Incommunicado**—The quartet not joining the mass return were company guards who were responsible for the walkout when, denied seniority recognition, they refused their assigned posts and were tossed into the brig by the Coast Guard. They were held incommunicado aboard a prison ship at the Philadelphia Navy Yard.

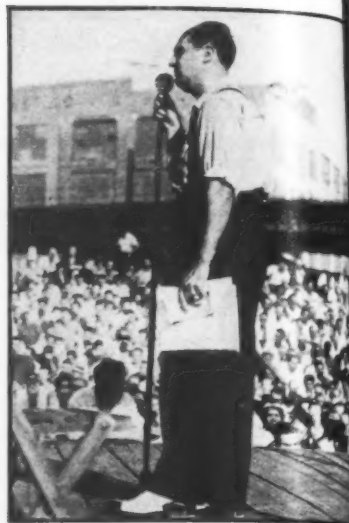
All 265 guards and watchmen at Brewster are members of the U. S. Coast Guard Temporary Reserve. They were sworn in over a year ago so that military authorities would be in complete control in the event of any emergency or crisis. With other employees of the plant, they are members of Aircraft Local 365, United Auto Workers (C.I.O.). The latter's contract with the company—a six-month extension of which ex-

pired Aug. 1—gave guards the right to select their posts and shifts on a seniority basis.

● **Nine Reconsidered**—When the day shift assembled at 7 a.m. Aug. 23, however, Lt. (j.g.) George Layman, their commander, began assigning posts. Thirteen men refused to accept them. The order was reread as a warning, and nine decided to give in. The remaining four were taken into custody on charges they had violated their Coast Guard oath of allegiance. When word of this reached shop stewards, they instructed workers to walk out in protest. Within an hour, all output stopped.

The strikers voted to stay out and not even negotiate with the company until the Navy released the four men and withdrew 200 regular Coast Guardsmen who went on duty when the walkout began. In face of these demands, the Navy began rounding up other guards from Hatboro streets and taprooms. The roundup netted 38, including three women. All were released later and given the status of "prisoners at large," meaning they had to remain within a 100-mile radius of Hatboro.

● **Thomas Intervened**—At first it was feared the strike would spread to the company's other two plants, at Newark, N. J., and Long Island City, N. Y. But after a telegram from R. J. Thomas, international U.A.W. president, to Thomas de Lorenzo, president of Local 365, ordered the strike terminated, those employees merely voted to file their in-



Unwilling to test the fire of the new strike act, Thomas de Lorenzo, head of U.A.W.'s local in Brewster aircraft plants, advises New York workers against a sympathy strike vote during the 30-day cooling off period.

tent to strike under the Connally-Smith Act so they can legally walk out in sympathy with Hatboro when and if the time comes. Hatboro also voted to file and went back to work for the 30-day "cooling off" period.

Frederick Riebel, Jr., president of Brewster, charges the union is responsible for all the company's production trouble. He asked Navy Secretary Frank Knox to remove the maintenance-of-membership clause in Local 365's contract and requested the Senate's Truman committee to investigate the squabble. The Navy seized the plants in April, 1942, because they had turned out no planes.

● **Scuttled and Sunk**—Riebel, who took over last Mar. 16 when Henry J. Kaiser became chairman of Brewster's board, declares he is "being scuttled and sunk by the same unworkable C.I.O. contract that sank three previous managements." He says he spent all his time between July 9 and the start of the strike trying to negotiate a new contract.

In rebuttal, the union claims the company is responsible for lagging output and charges the arrest of guards was instigated by the company as a trick to break the union's seniority system. The union also says Riebel broke faith by sending for armed militia before the recent walkout began. Regular Coast Guardsmen from Cape May, N. J.—three hours away from the plant—appeared on the scene 40 minutes after the trouble started.

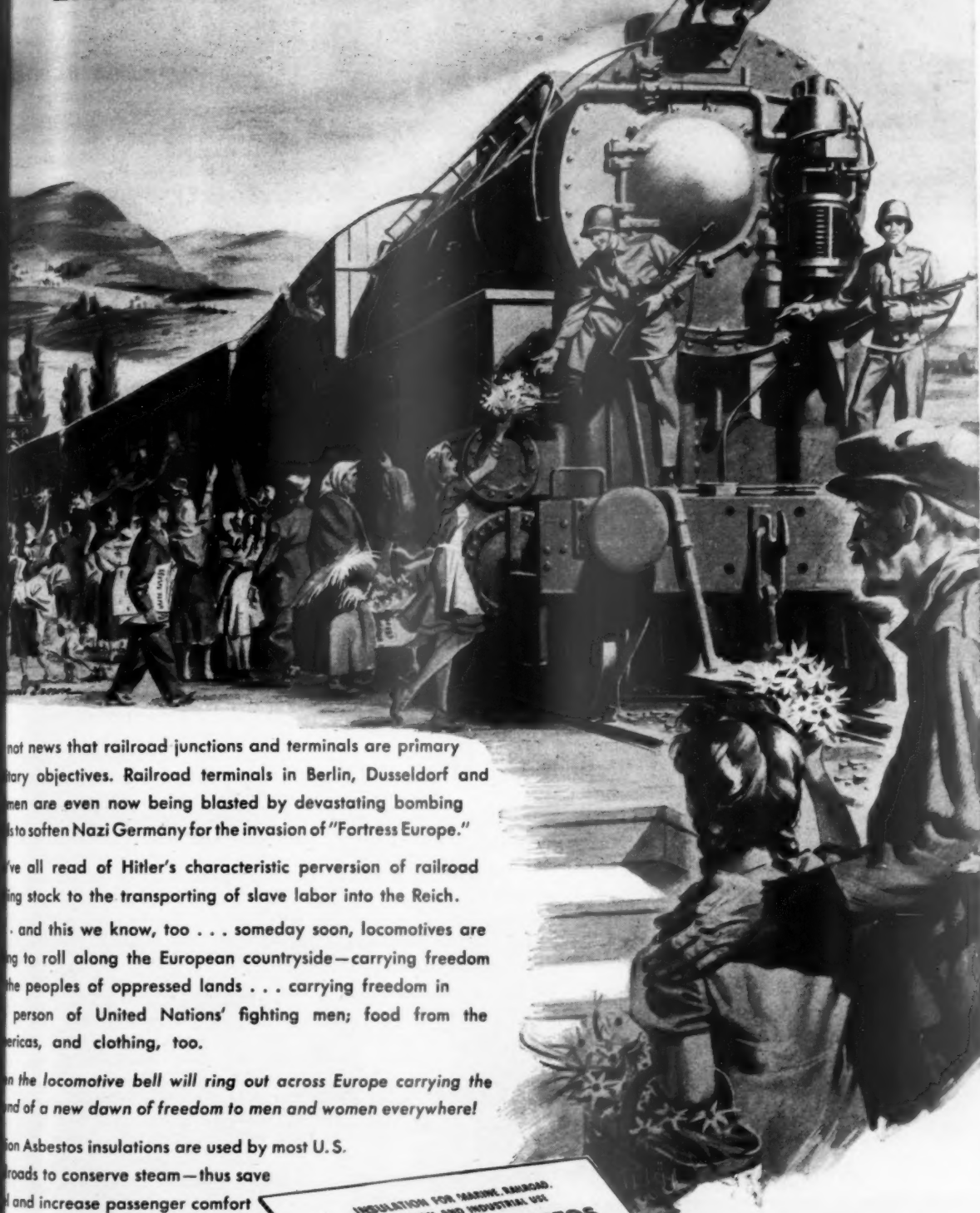
● **Union Head Confident**—De Lorenzo believes, however, that all difficulties can be ironed out before the 30-day waiting period expires. If his guess is wrong, the



All but a handful of 6,000 Brewster workers filed back into the Hatboro (Pa.) plant last week after a four-day strike which flouted the Connally-Smith Act's 30-day cooling off period.

Those who didn't come back, four plant guards whose arrest led to the walkout, must stand court martial on orders of the Navy, as they are sworn members of the Coast Guard Reserve.

Listen to the sound of the LIBERTY BELL!

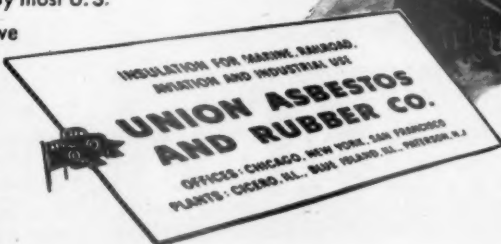


not news that railroad junctions and terminals are primary
 tary objectives. Railroad terminals in Berlin, Dusseldorf and
 men are even now being blasted by devastating bombing
 to soften Nazi Germany for the invasion of "Fortress Europe."

We all read of Hitler's characteristic perversion of railroad
 ing stock to the transporting of slave labor into the Reich.
 and this we know, too . . . someday soon, locomotives are
 ing to roll along the European countryside—carrying freedom
 the peoples of oppressed lands . . . carrying freedom in
 person of United Nations' fighting men; food from the
 Americas, and clothing, too.

on the locomotive bell will ring out across Europe carrying the
 and of a new dawn of freedom to men and women everywhere!

on Asbestos insulations are used by most U. S.
 roads to conserve steam—thus save
 and increase passenger comfort
 and operating efficiency. U. S.
 motive builders are applying
 arco insulations to all locomotives
 ing built for overseas duty.



**MOVING MORE AIR
Per Kilowatt Hour**



**"Buffalo" AXIAL FLOW
FANS**

Conserve Power thru Stepped-Up Efficiency

Eliminate wasted energy and you conserve valuable power. This simple axiom is exemplified in the "Buf-flow" Axial Flow Fan. The air current is propelled in a true axial direction—wasted motion of air turbulence is reduced to a minimum by means of special directional guide vanes, thus preventing energy losses common in ordinary fans. The result

is an exceptionally high operating capacity, quieter operation, *more air moved per Kilowatt hour* of input. Add these advantages to the heavy duty construction of the "Buf-flow" Axial Flow Fan, with its non-overloading characteristic, and you have the reason for the exceptional performance of this type of fan on so many vital air handling applications.



BUFFALO FORGE COMPANY

458 BROADWAY

BUFFALO, NEW YORK

Branch Engineering Offices in Principal Cities

CANADIAN BLOWER & FORGE COMPANY, LTD., KITCHENER, ONTARIO

"Buf-flow" AXIAL FLOW FANS

National Labor Relations Board hold a secret vote with each ballot lining the major issues, efforts to get them, and the standard \$64 question at the bottom: "Do you wish to permit an interruption of war production during wartime as a result of this dispute?"

The guards' membership in the Coast Guard Temporary Reserve, although drawing their regular pay from the company under the union contract, made the Brewster strike unusual in that nobody seemed to be certain whom the strike was against. The company said it was a Coast Guard matter, the Coast Guard said its only concern was the men's violation of military obligations and the union maintained its quarrel was with the company.

Pay Rise Voted

West Coast conference proposes 9¢ boost for about 8% of shipbuilders, reclassification of jobs for others.

The National War Labor Board which last July turned thumbs down on wage increases for shipyard workers generally, will soon receive a proposal for a direct 9¢ wage increase covering about 8% of workers employed in West Coast yards and a "job reclassification" device which would, in effect, increase wages of a large proportion of the shipbuilders on the Coast.

• **New Meeting Slated**—The proposal will come as a result of the seven-week huddle, concluded last week end in San Francisco, of shipyard management and unions. Paul R. Porter, director of WPB's Division of Shipbuilding, supervised the conference. The object was an overhaul that part of the 1941 national shipbuilding stabilization agreement which covers West Coast yards.

Further discussion is set for Nov. 1 to settle the question of whether the three-shift, eight-hour day shall be standard in western yards. Until then, each shipbuilding establishment will continue to operate on present schedules except that no employee will have his shift changed without getting 16 consecutive hours off duty. Everything else discussed at the conference will be presented to the labor board by an eight-man committee on which management and unions will have equal representation.

• **Blanket Increase Denied**—In the original shipbuilding stabilization agreement, as amended in 1942, wages were to increase with the cost of living, which was to be studied at periodic intervals. At last spring's consideration of the living-cost index, it was obvious that unless the flexible wage clause in the contract was scrapped shipyard wages would plummet.

Miss Smith, get me
a lower to London!"

How soon will you be able to give an order like that to your secretary?

One can say for sure. But this much is certain...

When America has won the right to enjoy victory... won't have to wait until a dream becomes reality for power to London. The rendering below is as real as itself. It is Mr. Dreyfuss' design for the interiors of American Export Airlines' *Flying Aces*.

This transatlantic plane lounge is quickly converted into upper and lower sleeping berths as needed. In its construction, you will find still another example of plastics and resins' contributions to the building of our modern world.

For as Mr. Dreyfuss says...

"Durez engineers and chemists are to be congratulated for their work in the development of phenolic plastics and resins. The plywoods made possible by these synthetic materials are a positive answer to aviation needs. Ever lighter materials are constantly sought. And resin-bonded plywoods combine the lightness of wood with the strength of metal. So they solved my problems for the floors, walls, ceilings and furniture of the *Flying Aces*." Durez Plastics & Chemicals, Inc., 549 Walck Road, North Tonawanda, N. Y.

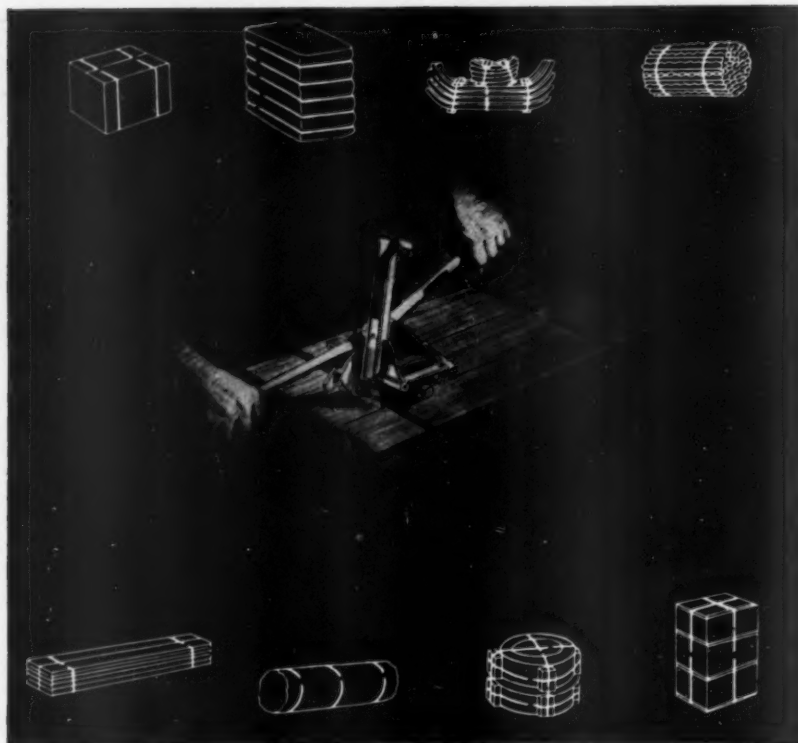
★ BUY UNITED STATES WAR BONDS AND SAVINGS STAMPS ★



HENRY DREYFUSS
Industrial Designer

DUREZ

PLASTICS THAT FIT THE JOB



"Bound to Get There"

When ACME STEELSTRAPPED

ALL types of shipments—packed in boxes, cartons, crates, bales, bundles or on skids—are made "Bound to Get There" with Acme Steelstrap. This modern reinforcing procedure assures adequate protection against today's rough handling—necessitated by speed-up demands of war.

Meeting all Federal Strapping Specifications, Acme Steelstrap applied with Acme tools provides a faster, safer and more economical way to move parts and products from production fronts to fighting fronts.

And for carload loadings . . . Acme Unit Load Bands are used . . . to conserve space and to reduce tare weight to a minimum.

Co-operating with Government services, carriers and manufacturers, Acme engineers have helped to assure safe arrival for overland and overseas shipments.

If you have a wartime shipping problem, an Acme engineer will be glad to work with you in determining the best way to pack your shipments. Get in touch with your nearest Acme office—there is no obligation.



ACME Steelstrap PROCESS

ACME STEEL COMPANY General Offices: 2828 Archer Ave., CHICAGO, ILLINOIS
 Atlanta Baltimore Boston Detroit Indianapolis Los Angeles Milwaukee
 New Orleans New York Philadelphia Pittsburgh Portland, Ore.
 St. Louis St. Paul San Francisco Seattle
 ACME STEEL COMPANY OF CANADA, LTD., Montreal, Toronto, Winnipeg, Vancouver

a gaping hole in the 15% ceiling established by the Little Steel formula. Consequently, NWLB refused to permit blanket pay boost (BW—Jul. 3, 43), but stated it would consider alternatives in particular Pacific Coast job rates. Porter and representatives of 70 employers and 425,000 workers have been wrestling, with the press barred, since July 12 to work out a proposal for submission to NWLB.

● **Mass Thaw**—The conference agreed on 24 separate changes in classifications which, according to official statements of the conference, "save 50,000,000 man-hours in West Coast shipyards annually," by "thawing" workers heretofore "frozen" in single jobs. Obviously, they also serve as a device to raise the wages of workers whose jobs are reclassified.

Shipfitters, for instance, would be permitted to do tack welding, thus eliminating present practice of requiring welders to stand by to do tack welding for the shipfitters and releasing them for production work in jobs at higher wage rates.

● **It Worked in Practice**—In a tryout of this procedure at the Vancouver (Wash.) yards of Henry J. Kaiser last month, daily welding footage was increased 55%. Also, tonnage of steel erected daily by shipfitters doing their own tack welding went up 124%.

A proposal by the Navy to install an incentive wage system in West Coast yards, which attracted considerable attention when first suggested, never reached the discussion stage in the conference.

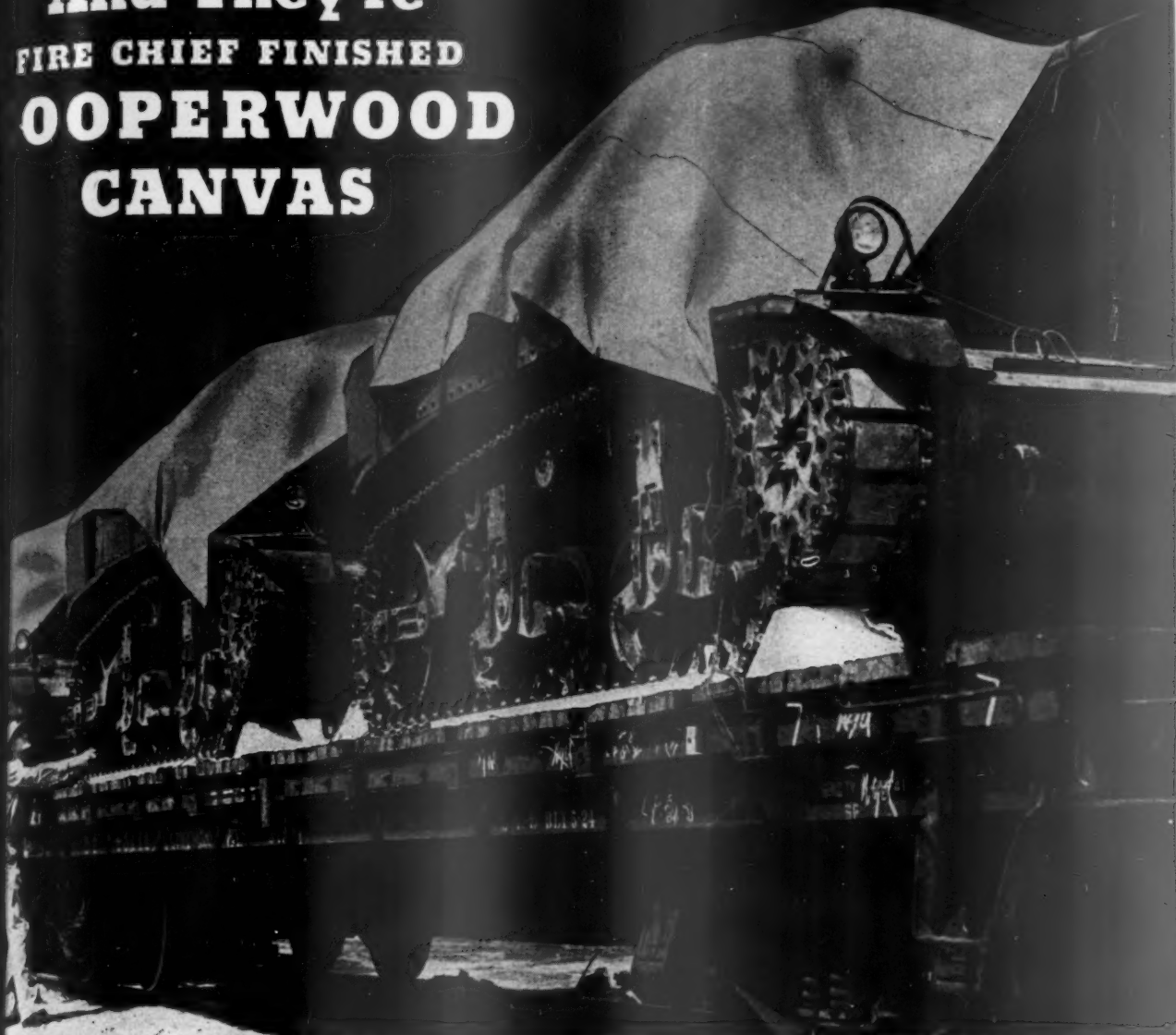
Labor Areas Shift

New pinches put six more in Group I bracket of acute need and add five communities to the first time.

Changes made by the War Manpower Commission in labor market classifications, effective this week, add six more communities in the Group I bracket—areas of acute labor shortage—and drop two from Group I to Group II—areas of labor stringency in which acute shortage may be expected within six months.

● **How They've Changed**—The latest review of manpower supply and demand in all cities of over 25,000 population and in all war production towns classifies 340 areas—five more than appeared in last month's listings (BW—Aug. 7, p. 72)—into four groups. Group I contains 59 areas, Group II has 112, Group III—areas in which a general labor shortage may be expected after months—has 78, and Group IV—in which the labor supply is and is expected to continue to be adequate to meet

he Iron Cavalry Needs Blankets, Too And They're FIRE CHIEF FINISHED HOOPERWOOD CANVAS



because our Armed Forces literally travel, live and fight under FIRE CHIEF-finished HOOPERWOOD Canvas — need many millions of yards of this fire, water, weather and mildew resistant cotton duck — there is some for civilian uses today.

But this amazing war-proved product holds great promise for post-war application, is greatly extending the popular conception of canvas usefulness in many fields.

For instance — as awning material, it can't be ignited by cigarettes or other hazards of carelessness. As welding curtains, it actually defies an oxyacetylene flame and set it afire. As covers for trucks, it will outweather warmer materials several times over. Down in a mine under the worst climatic conditions, mildew cannot

attack it. As lifeboat covers, hatch covers and other marine canvas specialties, it helps remove much of the fire hazard on shipboard. As construction windbreaks and tarpaulins, it promises to materially lessen fire losses of building operations.

These are but a few of many opportunities for the use of HOOPERWOOD "Engineered Canvas" to save lives, property, production time and profit in the post-war world.

WM. E. HOOPER & SONS CO.
New York PHILADELPHIA Chicago
Mills: WOODBERRY, BALTIMORE, MD.

Since 1800 (through six wars) the HOOPER name has symbolized highest quality in Cotton Duck and other Heavy Cotton Fabrics, Paper Mill Dryer Felts, Filter Cloth, Rope, Sash Cord.

Fire-Chief Finished

(PATENTED)

HOOPERWOOD COTTON DUCK

THEN POWER SHOVELS WILL BE

Braked Electrically

WHEN World War II struck the world with all its fury, Warner Electric Brakes were ready! Immediately, their accurate control and split-second stopping power, as proved in years of service on leading tractor-trailer fleets, were enlisted by our armed forces. Dependable in all kinds of weather, Warner Electric Brakes were adopted for essential motor transports and huge artillery pieces, demonstrating their superiority today on all of the world's battlefields. And when Victory is won, the experience gained under most grueling war conditions will be applied to electric brakes for scores of new peacetime uses. Then power shovels—and many other types of power equipment will be braked electrically.

WARNER ELECTRIC BRAKE MFG. COMPANY

Beloit, Wisconsin



WARNER

ELECTRIC BRAKES

BUY
WAR BONDS

CONTROLLED SPLIT-SECOND STOPPING POWER FOR ANY PURPOSE

LOG LIKE HELLS



THE WOODS ARE ALSO FRONT LINE

POSTERS FOR WOODMEN

Squeezed between a log jam of old and manpower shortages (BW—M 1'43,p93), logging operators are bating tooth and nail against absenteeism. Their latest offensive is a poster campaign which tells in simple, forceful language why logging is important. In lumber camps and sawmills throughout the country, the placards represent the Lumber & Timber Products War Committee's effort to keep vital wood supplies rolling on.

known requirements—contains 91 areas. Changes and new listing are as follows:

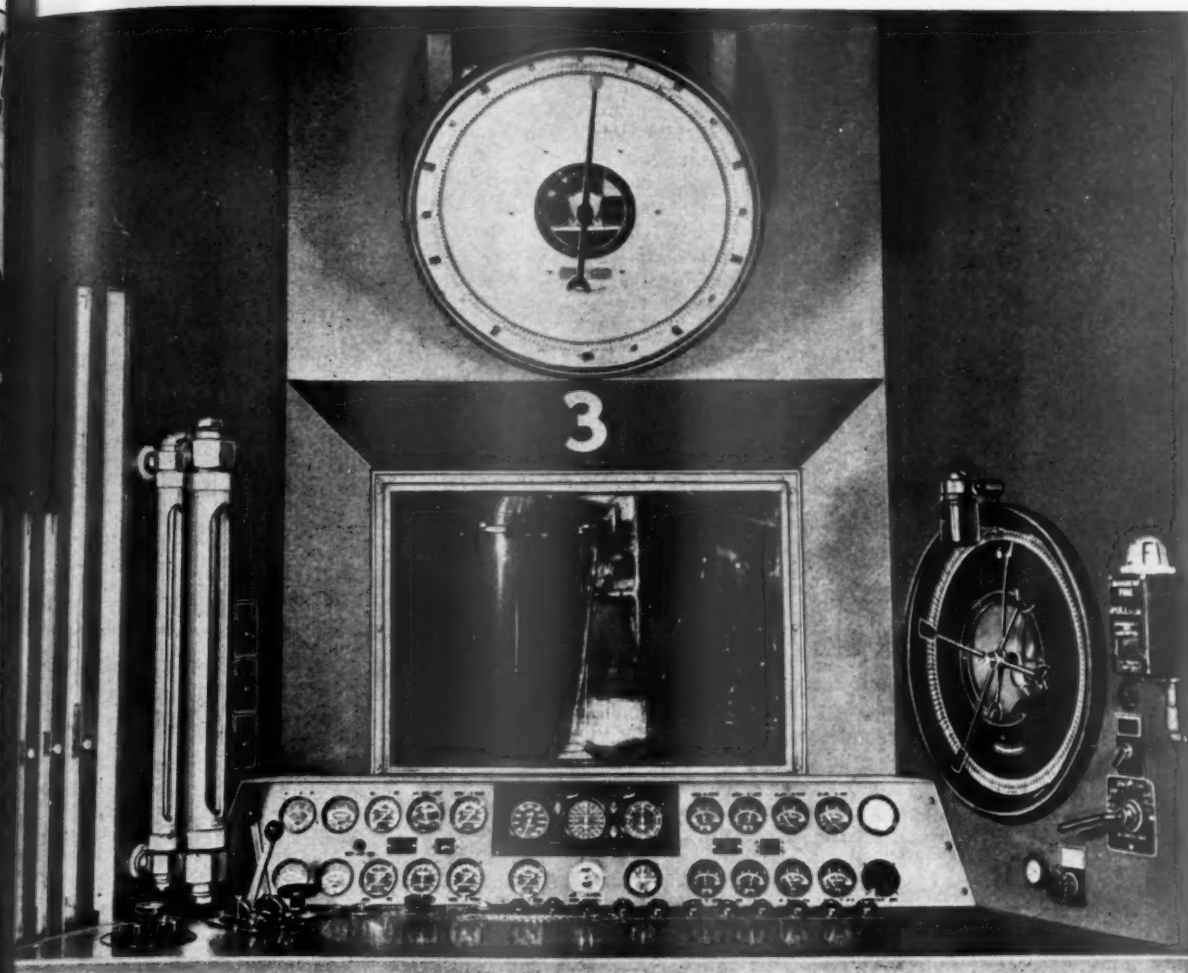
- Anniston, Ala.—I to II
- **Bellingham, Wash.—II
- Berwick, Pa.—III to IV
- Billings, Mont.—II to IV
- Eugene, Ore.—III to II
- Gadsden, Ala.—I to II
- Great Falls, Mont.—III to II
- Long Branch, N. J.—III to II
- Meriden, Conn.—II to I
- New Castle, Pa.—II to III
- New Orleans, La.—III to II
- North Adams, Mass.—III to II
- *Petersburg, Va.—II to I
- **Price, Utah—I
- Provo, Utah—II to I
- *Richmond, Va.—II to III
- **Rock Springs, Wyo.—I
- Scranton, Pa.—III to IV
- **Wallace-Kellogg, Idaho—I

*Richmond-Petersburg area has been divided.
**First listing.

PENSIONERS MAY WORK

Texas old-age pensioners until recently could make more money by not working. The Texas legislature enacted a law exempting the first \$250 earned for any occasional or seasonal work by any person receiving old age assistance. Legislators felt that many of the pensioners were capable of doing light work.

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 1943



Photograph Courtesy General Motors

M-H Controls speed aircraft engine testing

SPECIAL automatic remote control devices developed by Minneapolis-Honeywell engineers are speeding the testing of aircraft motors in the nation's newest and largest aircraft manufacturing plants. These new control devices not only conserve manpower, but make possible positive, accurate findings under all kinds of flying conditions which are simulated in the test cells. Automatic recording devices by Brown Instrument Co., a Minneapolis-Honeywell

subsidiary, take down operational data of each engine so that complete performance record is available. This new development by Minneapolis-Honeywell engineers is but one of the many M-H contributions to the war effort . . . If your problem deals with automatic control, M-H engineers can help you. Minneapolis-Honeywell Regulator Co., 2728 4th Ave. S., Minneapolis 8, Minn. In Canada: Toronto. In Europe: London, England, and Stockholm, Sweden,

PROVIDES AUTOMATIC TESTING FOR:

- 1 Oil temperature and flow control.
- 2 Prestone temperature and flow control.
- 3 Gasoline temperature and flow control.
- 4 Carburetor air flow and temperature control.
- 5 Air cooled engine temperature control.
- 6 Automatic safety shutdown and alarm control.

BUY MORE WAR BONDS!

INSTRUMENTS BY **BROWN** AND CONTROLS BY
MINNEAPOLIS-HONEYWELL
 FOR THE INDUSTRIES

and aiding in the all-out work program.

But the Federal Social Security Board ruled that anyone receiving pay for work is not eligible for federal assistance. Hence Texas pensioners were faced with the possibility of losing half their September pension, which has been averaging slightly above \$20 a month. But the Social Security Board relented and released funds for the Texas pensions.

In the Middle

Allis-Chalmers wants no part of the District 50-C.I.O. fight in two of its plants, but it's caught by antistrike law.

Allis-Chalmers Mfg. Co. is an outstanding example of an employer caught in a jurisdictional cross fire between two unions. At Springfield, Ill., the company has two plants making such military necessities as gun tractors, employs about 2,300 people.

• **District 50 Pops Up**—Local 120, United Farm Equipment & Metal Workers of America, C.I.O., is the duly certified bargaining agent, representing all production and maintenance workers in these shops. District 50, the catchall unit of John L. Lewis' United Mine Workers of America, wants to displace Local 120 even though the C.I.O. outfit has a contract running until next April.

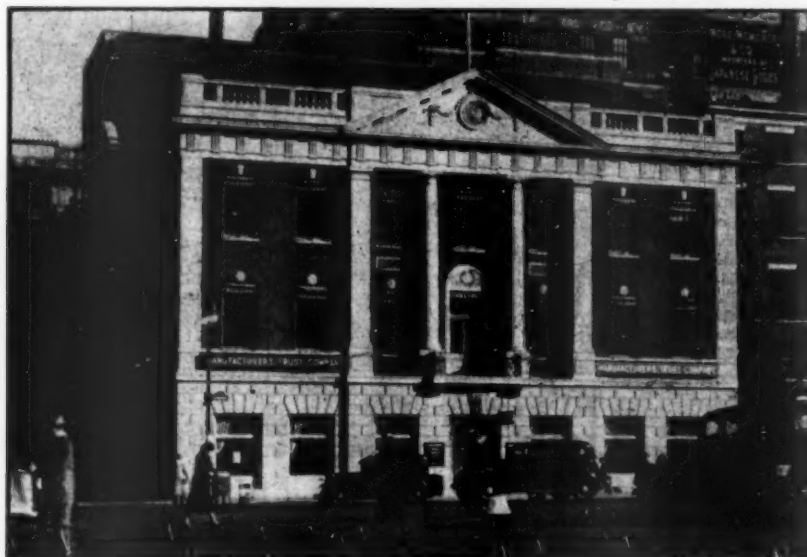
Last week, Local 120 was demanding that the federal government seize the Allis-Chalmers Springfield works to prevent an interruption of production.

At the same time, District 50—which caused a partial work stoppage in this unit for two days last June—was threatening a strike for this week and was only deterred by certification of the dispute to the National War Labor Board at the eleventh hour.

• **Agree on Referee**—Meanwhile both unions issue such blasts as last week's by the U.M.W. charging conspiracy and collusion between Allis-Chalmers and the Communist Party. Both sides make demands which the employer is powerless to grant. Sole rift in last week's storm clouds came when the company and the C.I.O. local agreed on Dr. John Lapp for impartial referee.

What puts Allis-Chalmers squarely in the middle is Attorney General Francis Biddle's interpretation of the Connally-Smith law which permits a minority to ask for a strike vote (BW-Aug. 7 '43, p15). At Springfield, District 50 early in August won by 1,005 to 836 the first strike election ever held under this ruling. (The company and C.I.O. assert District 50 promised workers there would be no strike called, but that is denied by the U.M.W. unit.) What stops the company is that it may not legally deal with District 50 because of its contract with the C.I.O. local.

• **Washington vs. U.M.W.**—Stripped of the technicalities, the Springfield ruckus is actually a fight between Washington and U.M.W.'s District 50. The latter petitioned for a representation election last March, claims the National Labor Relations Board should have granted this request. Instead, in June, NLRB denied the U.M.W. request and thus ratified a new contract made in May between the company and the C.I.O. local.



TAMMANY'S NEW TENANT

Soon to be converted into union headquarters, New York's Tammany Hall will get an ironic twist of political at-

mosphere. The modern building with an historic past now belongs to Local 91, International Ladies Garment Workers Union which helped unsad-
dle Tammany ten years ago.

AMERICA IS WATCHING SPRINGFIELD

Will a Jurisdictional Strike at Allis-Chalmers Drive up the Price of vital War Materials in Springfield?

Not being involved in the current jurisdictional dispute which threatens to close our Springfield plant, Allis-Chalmers is in no position to take sides... unless it is the nation's risk.

Dispute between District 50 and Local 120 of the C.I.O. has caused a partial work stoppage in this unit for two days last June. A strike for this week and was only deterred by certification of the dispute to the National War Labor Board at the eleventh hour.

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ALLIS-CHALMERS

As C.I.O. and District 50 locals fight to control Allis-Chalmers' two plants in Springfield, Ill., the company advertises its neutrality.

This brought on the U.M.W. strike which petered out in two days when certification to NWLB was promised.

When its June strike fizzled, District 50 served 30 days' notice of intention to strike under the terms of the Connally-Smith law. In late August, NLRB again denied District 50 a representation election, and District 50 countered not only with a mass meeting called to authorize a strike for this week but also with an equity suit against NLRB. It was certification of this dispute to NWLB by the United States Conciliation Service that aborted the threatened strike.

• **Union Bigwigs Step In**—All the while, the C.I.O. local is hollering copper at the top of its lungs. A substantial force of the C.I.O. union's international officers is backing up the apparently bewildered local officers.

The company thus finds itself in an unenviable position. From one side, a strike menace. From the other, government seizure of the Springfield works is a distinct possibility due to a fight that Allis-Chalmers claims no part in.

• **Hearing Sept. 11**—The management is summoned to appear in Washington on Sept. 11 at an NWLB hearing on what is officially described as "the dispute involving Allis-Chalmers and U.M.W. District 50," although neither the company nor the union considers that it has a dispute with the other.

Last week, Springfield newspapers carried a full-page advertisement in which the company set forth its position. It pointed out that the dispute does not involve wages, hours, or working conditions; that it is not between workers and employer; and, it concludes, so what happens at Springfield is not up to Allis-Chalmers.

Nobody involved seems sure just how



VICTORIES TODAY

bring the realities of Tomorrow

Airplane wings from "AC".

Jeep and trailer bodies from "AC".

Fuselage parts and exhaust manifolds from "AC".

These are some of American Central's production victories today.

But that isn't all! From tested-in-action experiences today come the facilities and abilities with which American Central will create the realities of tomorrow . . . greater performance and conveniences, new beauty and utility, in the kitchen and food-protective equipment we shall manufacture for industry and the home.

AMERICAN  CENTRAL
MANUFACTURING CORPORATION
CONNEERSVILLE • INDIANA

**Start Your Engineers, Designers,
Production Men *thinking now*
about TOMORROW'S DESIGN...**

This Free Book
tells the
HOW and WHY
OF
Flexible Shafting

Flexible shafting has proved its worth in countless new ways during this war: As a time saver! As a conservor of weight, manufacturing processes, and materials! As a short-cut around complexity and waste. Yes, even proved itself in ways that cannot be hinted at now.

There's been a "flexible shafting revolution" going on in the minds of many designers and engineers. Old ways, old complexities of power transmission and remote control are definitely out—*especially for post-war designs*. No manufacturer can afford to ignore the trend. Don't wait for the inevitable post-war competition to force your hand. Get a head-start now. Write today for this valuable free booklet and start your engineers and designers thinking in the new direction of simpler power transmission.

Eliminates universals, belts, gears, sliding joints, bearings, housings, brackets

Simplifies and safeguards remote controls

Solves problems of weight saving, material conservation, cost cutting on both machining and assembly

STOW — the inventor and developer of the Flexible Shaft since 1875 — can furnish you with valuable engineering data on flexible shaft applications

Stow Flexible Shaft Mobile Units take power-driven tools directly to the job — clean up hard-to-get-at jobs that often form bottlenecks



STOW

FLEXIBLE SHAFTING

STOW MANUFACTURING CO.,

425 State St., Binghamton, N. Y.

INVENTORS AND DEVELOPERS OF FLEXIBLE SHAFTING

the present impasse came about. C.I.O. local, a year and a half ago, over-bodily an independent union. June, 1942, it was certified by NLRB.

• **Contract Agreement**—At that time four other Allis-Chalmers plants and their C.I.O. unions had before the NWLB cases involving the same demands as Springfield's on union shop checkoff, and general wage increase. At the request of the United States Conciliation Service, the Springfield local and the company agreed to accept this decision, then negotiate a contract embodying it.

At this point, the farm equipment workers slipped badly in their strategy. They might have kept their membership sold on the long wait until the decision of the NWLB came down in April, 1943. Instead, they let aggressive Hugh White of District 50 get a leg in the door. White told Local 120 members their union was doing nothing for them. He promised them all sorts of good things including 10¢ an hour.

• **Harping on Communism**—White played up, for all it was worth, the alleged communistic leanings of the farm equipment workers' leadership—a commonplace charge, particularly since the time when Harold Christoffel led the series of bloody strikes at West Allis (BW—Apr. 5 '41, p15). Internal friction in Local 120 moved several of its brightest management minds into the U.M.W. fold.

Now it's a tossup which side will win the representation election that NLRB will eventually have to sanction. Most of the smart money is on District 50.

WMC AIDE SQUEEZED OUT

When the Walsh-Kaiser shipyard in Providence, R. I., got into difficulties because it hired new workers who did not have a certificate of availability from their previous employers (BW—Apr. 28 '43, p97), it brought to a head a situation which squeezed Rhode Island employers in a wringer between the state War Manpower Commission administration and New England labor unions.

Under closed shop contracts with A.F.L. organizations, the Walsh-Kaiser yard was dealing with unions which refused to acknowledge the authority of regulations of the state WMC. The unions flouted the commission's certificate-of-availability rule because Farmer D. Coyle, WMC's Rhode Island director, had a record distasteful to the labor unions. With WMC determined to permit no deviations from its regulations and with the A.F.L. equally determined not to cooperate with Coyle, Walsh-Kaiser and other employers were caught in the middle.

To John S. Macdonald, Walsh-Kaiser's general manager, goes credit for breaking the deadlock. With a complete

about. Ward for protocol, he wired WMC Paul McNutt that his yard was in great need of labor to turn out frigates for the British Navy, that the A.F.L. feud was leading to serious trouble. This week Coyle was replaced. McNutt's successor is Thomas H. Bride, former head of Rhode Island's Federal States Employment Service.

Missing the Boys

War industry will feel the pinch when youngsters drop their summer jobs to return to school. Some will work part time.

Part of the reason why the manpower shortage will move into an acute phase this fall is that the biggest crop of school children ever put to work in industry will soon be returning to classrooms after their summer vacation. Teen-age summer labor has been a familiar tradition for many employers, and this summer the lure of high wages, an adult-size recruiting program, and high school girls and boys into mills, factories, and farms in unprecedented numbers. Their employment helped to ease the restrictive effect of an increasing labor shortage. When the full effect of their departure is felt in October, it will be found that they have left a hole which will be difficult to fill.

Checkup Made—Typical of war production industries that utilized their supply of juvenile labor fully, Los Angeles employers next week will say goodbye to more than 35,000 teen-age boys and girls who worked full time this summer. Looking forward to their return next week, personnel men and educational authorities got some facts from the summer vacation-at-work which they hope will be the next time in tying school and work experience together for the benefit of both. Among the things they found

the students showed a low rate of absenteeism and turnover; their production behavior were good.

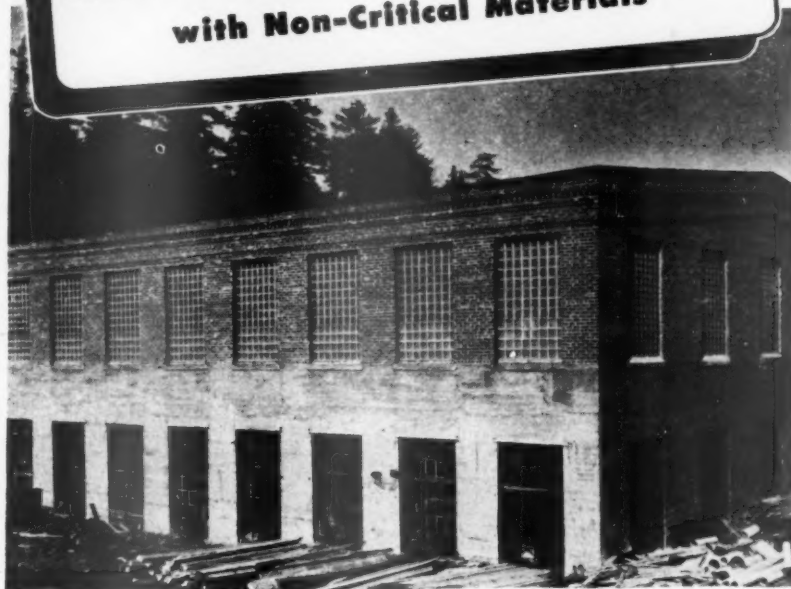
War work provides the experience educators have long desired to add to classroom studies.

Plan Popular—More than 28,000 students worked four hours and studied four hours a day during the school year ended in June, some 20,000 of them on vital war or civilian production. More than 16,000 of them will graduate on schedule.

Student workers on the 4-4 plan produced as much as the full-day worker in the same tasks in six hours.

Both management and educators insist on high standards in 4-4 work, and when school ratings fall off, the student gets a record of absence from the plant until

How to Help "Heat" Your Factory with Non-Critical Materials



Before this large Eastern paper mill began its sash replacement program, many employees worked in sheepskin coats during the winter to keep warm.

Now workers wear normal clothing the year 'round on floors where INSULUX Glass Block have been installed.

Owners of old buildings are gratified with the low-cost and efficient operation that result from replacing worn-out, obsolete sash with INSULUX Glass Block.

Heating and air conditioning costs are reduced by the high insulating value of the four-inch thick INSULUX panels.

Diffused daylight, directed deep in interiors, helps increase efficiency, reduce power bills.

Precision machines are guarded from dust, dirt, and moisture infiltration.

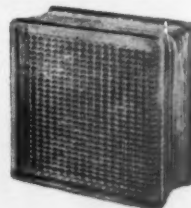
Maintenance is lowered. INSULUX cleans easily, never needs painting. Glass block and mortar can't rot, corrode, or wear out.

INSULUX is fireproof—non-combustible.

OWENS-ILLINOIS
INSULUX
GLASS BLOCK

INSULUX Glass Block Make Sash Replacement Easy and Economical—Even in Wartime

HERE'S HOW: Any competent mason can do the job. Scrap the worn-out windows. If needed, cut chases in existing brickwork. Fill up openings with INSULUX. Delivery is prompt; prices remain at economical prewar levels. For illustrated details, write for our new FREE book on sash replacement with INSULUX Glass Block. INSULUX Products Division, Owens-Illinois Glass Company, Dept. 97, Toledo, Ohio.



DOUBLE-DUTY DOLLARS!

A \$1,000 WAR BOND PAYS FOR:

NOW

14
bombardier
kits
18 100-lb.
general pur-
pose bombs
153 first aid
aeronautic
kits
3,000 aerial
photo films
500 pairs of
flying gloves

AFTER THE WAR

New rolling
doors for your
warehouse
New over-
head doors
for the garage
at your plant
A new home
laundry
room with
folding doors
to conceal
it when not
in use

**KEEP BUYING
WAR BONDS!**

Now your dollars can buy the Bonds that buy the bombs to blast the Axis out of existence. They prepare the way for a better life and a better world for you and your children. Remember—you aren't spending the money—you're just *lending* it to freedom's cause—so that...

Later your dollars (the same dollars) can do things for you, your family, and your business. That War Bond money comes back home just when you need it most. And we'll be ready to help you then as we're helping Uncle Sam now. When the order comes to cease our all-out war production, we'll be ready to take your orders for home and plant—to give you the benefit of what war work has taught us.

The WILSON Corporation
370 LEXINGTON AVENUE, NEW YORK CITY ESTABLISHED 1874

BUILDERS OF ROLLING AND OVERHEAD DOORS IN STEEL AND WOOD

100 • Labor

his school ratings are caught up, find, by and large, that if the student can't make a passing grade in school he isn't worth much in a factory either. • **Double the Order**—Students were employed this summer in 38 different departments of Lockheed-Vega, doing classes of work, and this company asked for double the number of workers during the school year.

STATE LAW SUPERSEDED

State labor laws concerned with union membership as a condition of employment will be inoperative for the duration of the war if last week's decision of the National War Labor Board in the J. Greenebaum Tanning Co. case is allowed to stand. In a dispute over a maintenance-of-membership award which appears to be banned by Wisconsin's Employment Peace Act, the board declared that the war powers of the President and Congress in labor relations supersede enactments of state legislatures.

NLWB's dictum is addressed to a section of the Wisconsin law which provides that any union security is illegal unless "three-quarters or more of the employees in such collective bargaining unit shall have voted affirmatively by secret ballot" in favor of the security. The board directed the Greenebaum Co., in Milwaukee, to grant membership maintenance and a checkoff C.I.O.'s Fur & Leather Workers Union in spite of (1) the Wisconsin law, and (2) a contention by the company that the provision in the Connally-Smith Act that "the board shall conform to the provisions of . . . the National Labor Relations Act" bars such awards.

NLWB asserted that its ruling did not invade Wisconsin's sovereignty because the case before it did not involve state employees.

NEW RUNOFF POLICY

The National Labor Relations Board has, for a long time, been dissatisfied with its policy governing conduct of runoff elections. Handed down from an earlier day when the board had entirely different personnel, the policy did not permit taking a second collective bargaining poll when, on the first ballot, the most votes, but not a majority of the votes cast, went to "no union." In most of the representation elections NLRB conducts, two competing unions appear on the ballot, and there is a third space to permit a vote for neither.

Effective this week, however, NLRB has new runoff rules. They provide that if one of the parties entitled to appear on a runoff ballot requests such a poll within ten days after the first election, a new vote will be taken in which the eligible may choose for or against the union which got the largest number

Business Week • September 4, 1945

on the first ballot. When a labor organization or "no union" wins a majority on the first ballot, no runoff is required.

The amended election rules are a victory for the unions. When the Board decided to alter its procedures, it invited all interested parties to make suggestions. Labor lawyers as well as the National Assn. of Manufacturers submitted ideas. The board's final decision is not far from what the A.F.L.-C.I.O. proposed.

ABSENTEES FACE DISMISSAL

As great as is its need for help, the Curtiss-Wright plant has decided to crack down on absenteeism by dismissing the chronic absentees.

The management found that 30% of the absences were caused by 5% of the workers; that 50% were accounted for by 15% of the total force.

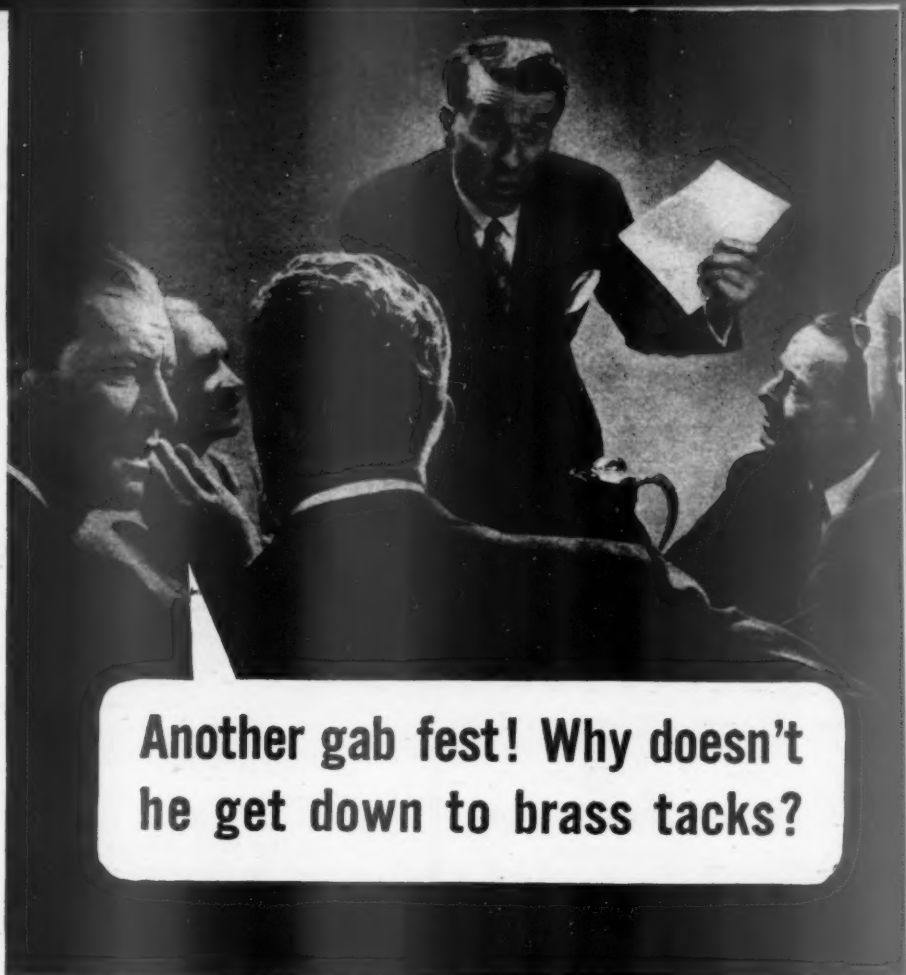
Chronic absenteeism is defined by the company as four or five days' unjustifiable absences in two consecutive months, or the equivalent.

Draft board members are evincing interest; one said that any man of draft age who is fired for absenteeism would find himself in a tough spot even though he might find a job in another war plant.



SLICING THE SKIDS

Any ship launching, the greaser of the ways is in sharp contrast to the color and speech makers who perform in their Sunday best. But without him, the speeches and champagne would be wasted. By smearing huge quantities of lubricant on shipyard ways, the greaser makes it possible for thousands of tons of steel to glide smoothly into the water when blocks are put out. It's the yard's messiest job.



Another gab fest! Why doesn't he get down to brass tacks?

"THIS CONFERENCE is running all over the lot. A few days from now no one will know what was decided — if anything. And we'll get blamed when somebody asks why we didn't follow through on this job or that. But it's not our fault things are left up in the air. We ought to get the facts down on paper."



"HERE'S A SUGGESTION, Mr. Gray, to help us get results. This Hammermill book shows how to design a conference form covering the date, who was present, what was decided, who is to do what and when. Our printer can make some up."

Read what other business men say:

Detroit: "I belong to several boards where 'gab fests' are the order of the day. I'd like to distribute copies to my fellow board members in the hope that they'll take a hint."

Bridgeport: "If we could make our conferences as interesting as your book, we would go a long way toward eliminating the waste of time and money which occurs in so many meetings."

New Haven: "...of assistance to me in conducting War Manpower Commission job instructor training groups."

New York: "The time spent at conferences could be cut in half if everyone would follow the suggestions in this book."

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FINANCE

Net Comes Hard

Corporate earnings still are rising, but at great cost in taxes—and renegotiation robs these reports of meaning.

Fairbanks Morse & Co. did not issue its customary first-half report on earnings this year since "the amount of profit refundable to the government in the renegotiation of our 1943 business cannot be estimated at this time," and any estimate "could be very misleading." Last week, Grumman Aircraft Engineering Corp. did issue its usual six-month

report—figures which showed a \$1,400,000 net after providing for \$6,788,000 of federal income and excess taxes—but the company frankly said accurate estimate of earnings was possible until it learned, via renegotiation proceedings, just how much profits had to be returned to Uncle Sam. ● **Conspicuous Example**—That renegotiation is nothing to be treated lightly. American Car & Foundry will readjust its earnings (BW-Jul.17'43,p102). For six months ended Oct. 31, 1942, it reported earnings of some \$21 on its common stock after putting aside what was presumed to be enough to cover a turnback of profits due to renegotiation. However, renegotiation was something new then. Its potential effect on pro-

Watch Renegotiation

Numerous companies reported first-half earnings well above 1942 levels, despite this year's heavier tax load. However, the renegotiation factor has turned many interim reports into very qualified earnings estimates, and

they have lost much of their normal significance. Some companies, heavily engaged in war work, in fact, have refused to publish 1943 midyear reports on the grounds that they may mislead stockholders.

	1943		1942	
	Net after Taxes	Taxes	Net after Taxes	Taxes
Air Reduction	\$3,446,000	\$6,892,000	\$3,253,000	\$6,037,000
American Chain & Cable.....	2,233,000	7,067,000	1,402,000	7,047,000
American Hawaiian SS.....	725,000	1,186,000	1,097,000	2,852,000
American Locomotive	4,618,000	20,730,000	2,552,000	11,945,000
American Woolen	4,290,000	14,500,000	1,659,000	13,100,000
Anaconda Copper	17,855,000	16,250,000	18,204,000	28,058,000
Bethlehem Steel	12,843,000	61,610,000	12,212,000	49,400,000
Borg Warner	4,655,000	25,607,000	3,986,000	13,956,000
Bucyrus-Erie	865,000	3,970,000	531,000	3,363,000
Celanese Corp.	6,827,000	9,947,000	7,314,000	11,272,000
Chrysler	12,537,000	25,450,000	8,770,000	9,350,000
Colgate-Palmolive-Peet	2,987,000	5,880,000	2,241,000	7,225,000
Consolidation Coal	709,000	689,000	961,000	672,000
Container Corp.	833,000	2,641,000	1,229,000	3,297,000
Doehler Die Casting	689,000	2,583,000	434,000	2,564,000
DuPont	29,556,000	60,848,000	25,953,000	63,320,000
Eastman Kodak	8,533,000	15,973,000	7,462,000	20,854,000
Food Machinery	1,225,000	5,062,000	1,184,000	2,434,000
General Electric	21,062,000	123,500,000	20,681,000	77,000,000
General Foods	6,217,000	10,600,000	5,667,000	11,520,000
General Motors	69,390,000	107,686,000	47,843,000	70,720,000
B. F. Goodrich	5,574,000	30,550,000	3,103,000	13,677,000
Goodyear Tire & Rubber	7,349,000	44,799,000	4,124,000	13,840,000
Int'l Business Machines	4,953,000	12,441,000	4,663,000	7,225,000
Kaufman Department Stores	637,000	1,175,000	406,000	800,000
National Cash Register.....	3,282,000	9,907,000	3,503,000	6,908,000
National Dairy Products.....	6,017,000	17,000,000	5,428,000	5,530,000
National Distillers	4,638,000	7,627,000	2,476,000	2,468,000
Pacific Mills	878,000	5,651,000	886,000	3,537,000
Packard Motor Car	1,974,000	9,913,000	3,966,000	3,295,000
J. C. Penney	8,180,000	14,290,000	6,262,000	13,065,000
Phelps Dodge	6,778,000	10,300,000	5,533,000	9,200,000
Pullman, Inc.	4,500,000	19,717,000	7,089,000	11,777,000
Reo Motors	959,000	3,020,000	409,000	350,000
Revere Copper & Brass	914,000	9,055,000	994,000	8,480,000
Shell Union Oil	10,435,000	17,600,000	7,229,000	7,858,000
Standard Brands	4,717,000	6,383,000	2,865,000	3,874,000
Standard Oil of Calif.	15,137,000	9,100,000	13,324,000	5,372,000
Timken Roller Bearing	3,113,000	13,130,000	2,780,000	13,461,000
Twentieth Century-Fox	3,843,000	4,620,000	2,191,000	1,250,000
Union Carbide	19,079,000	48,254,000	17,028,000	34,017,000
Union Tank Car	1,588,000	7,570,000	925,000	5,530,000
United Air Lines	2,153,000	1,744,000	882,000	588,000
U. S. Rubber	6,912,000	16,952,000	1,555,000	12,106,000
U. S. Steel	31,086,000	52,800,000	33,867,000	117,000,000
Westinghouse Electric	9,480,000	20,837,000	6,732,000	18,271,000
Worthington Pump	1,815,000	10,383,000	1,389,000	5,379,000
Wm. Wrigley	3,575,000	4,243,000	2,969,000	3,161,000
Youngstown Sheet & Tube	5,550,000	12,613,000	6,068,000	16,377,000

not appreciated, and the reserves proved far too small. For the full year ended Apr. 30, 1943, the company was actually only able to report a \$5 a share earned on its common. It would seem, therefore, that, unlike previous years, some interim earnings might be taken with a grain of salt while the present situation lasts. This is particularly true where a company has been actively producing war supplies, and if some provision has been made in order to cover any refund of profits necessitated by later renegotiation proceedings.

Only One Group Lower—Still, stockholders have likely been impressed with the showing made by various companies in the first half of 1943. A New York Stock Exchange tabulation of 460 listed corporations discloses profits almost above 1942 levels. About two-thirds of those on the list, moreover, contributed to this over-all gain, and of 17 specific industries represented, the steel, iron, and coke group might be higher operating costs and unable to raise output materially) actually ran behind 1942 levels.

An easy winner in the Stock Exchange was the amusement company group with a 49.3% gain; the rails, similarly, from renegotiation worries, came out with a 41.2% rise. The automotive group, with the costly job of converting plants to war production over, was able to show a 29% earnings expansion; and the oils, which did poorly in the first half of last year, reported a 19.5% rise. Chemical company profits rose 11%, and retailers managed to show a 8.9% gain.

Impact of Taxes—In the accompanying table, where 1943-1942 first-half earnings of 50 representative corporations engaged in 22 different lines (excluding rails and utilities) are compared, but 77% of those listed, despite huge increases in tax accruals in many cases, managed to report a higher 1943 net. The individual performance, obviously, showed no set pattern. However, it is interesting to note that only three (Anaconda, Consolidation Coal, and Standard Oil of California) were able to show net earnings for stockholders in 1943 as they set aside for Mr. Morgenthau, and they were all companies with inventories underground against exhaustion which they may charge depletion.

Subsequent renegotiation troubles might well result in a decided change in the picture presented. The table, as it stands now, however, indicates just how tricky these days is the corporation with favorable tax base or with chargeoffs all available. This is well illustrated in the rubber industry. U. S. Rubber was able to show an increase in net of \$5,700 this year and a rise in taxes of \$4,846,000. However, a rise of only \$471,000 in profits sent the B. F. Goodrich tax bill \$16,873,000 higher,

COCKPIT LIGHTING

... was put "ON THE BEAM"...

... thanks to Graybar's Procurement Know-How

Reports from the fighting fronts, reaching a builder of one of America's pursuit ships, showed the need for a change in the cockpit lighting fixture, a small item, but one of vital importance in emergencies.

Recalling Graybar's fine record in meeting other difficult lighting problems, the plane-builder asked for our help. It meant developing a brand new unit, tooling up, and beginning quantity shipments in about 60 days!

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Just two weeks later he was back with samples of a new design, a design which met the thorough tests with flying colors. The production order followed immediately. In less than 30 days thereafter, the plant was making deliveries in quantity.

Now repeat orders to GRAYBAR are confirming the fact that the new fixture design was "right on the beam". No less important — the new unit is priced some 30% below the former abandoned design!

More and more, GRAYBAR service to builders of war equipment is embracing items to be incorporated in their construction. Whether these are *standard* or *special*, mass-produced or built to order, GRAYBAR offers a fast-acting service of supply, backed by experienced specialists in procurement for aircraft, shipbuilding or ordnance.

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THE MARKETS

The stock market, on the last day of August, finally managed to shake off its recent inertia, staging the best rally seen in several weeks. Leading the parade were a number of the so-called peace issues, such as meat packing, gold mining, tobacco, and communications shares, and, due to last week's performance, when activity dwindled progressively daily until a new 1943 low was reached, the trading fraternity was particularly pleased to see volume expand somewhat.

• **Bad Month for Brokers**—However, one rose doesn't make a summer, and it would be stretching a point to say that the price gains registered signified any abrupt change in the recent trend. As a whole, therefore, the Street was pretty glad to see August pass into the discard as trading volume was about half that recorded in July. It turned out to be the poorest commission month for brokers since last November.

The more bullish elements have hopes that the mere passing of Labor Day, as so often has happened in the past, will mean an end to the recent dog days and bring about a rise in both volume and prices. A greater number, however, believe they see sound basic reasons for the recent listlessness; they look for no real change as long as the conflicting influences now in evidence continue to neutralize one another. None in the group feels smart enough to hazard a guess as to just when a change can be expected or what future development may bring it about.

• **Several New Offerings**—The underwriting houses are busily engaged cleaning up quite a few odds and ends of corporate financing before the Third War Loan drive occupies the spotlight. Current offerings include new Froedtert Grain & Malting Co. debentures, Balti-

more & Ohio equipment trust certificates, Pennsylvania Electric mortgage bonds and stock, and the 450,000 shares of Idaho Power stock once owned by Electric Power & Light which had to be disposed of to comply with Securities & Exchange Commission orders.

Also on the schedule are some new West Texas Utilities Co. mortgage bonds, and the Street this week, too, handled, for the first time in years, a large offering of an out-of-town bank stock. This was a secondary distribution of over 100,000 shares of First National Bank of Portland (Ore.) stock, however, and did not represent any new financing by the institution. (Transamerica Corp. controls the Portland bank.)

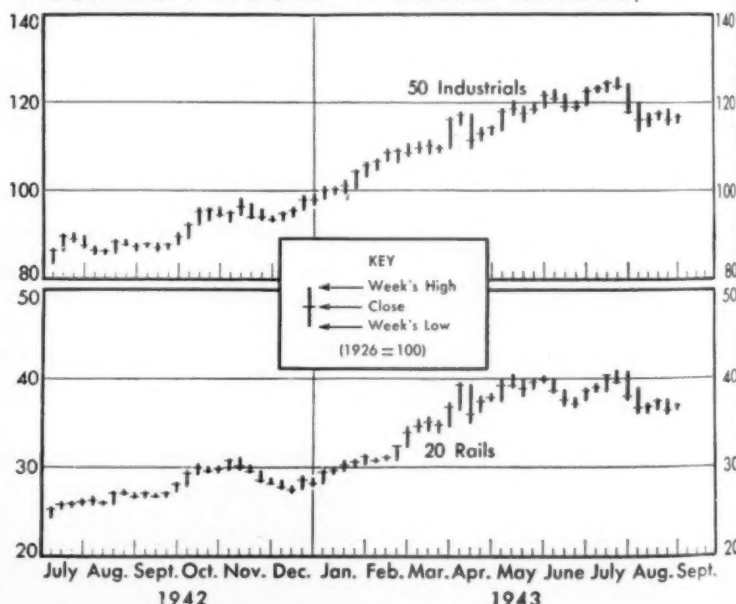
• **Bids Fail to Work**—Some of the underwriting boys have been grinning over the failure this week of the principle of competitive bidding to work out when Illinois Central received only one nibble for \$15,000,000 equipment trust certificates. One of the stalwart backers of competitive bidding, Halsey, Stuart & Co., made the lone offer, but it would have meant an interest cost of virtually 3%, and the road just wasn't interested.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial ...	116.8	115.8	115.9	87.6
Railroad	37.0	36.4	36.7	26.8
Utility	50.1	49.3	49.9	30.0
Bonds				
Industrial ...	117.2	117.4	116.5	106.9
Railroad	98.6	98.0	98.8	85.8
Utility	115.6	115.6	115.5	104.7
U. S. Govt. ...	112.9	112.9	112.8	110.4

Data: Standard & Poor's Corp. except for government bonds which are from the Federal Reserve Bank of New York.

COMMON STOCKS—A WEEKLY RECORD

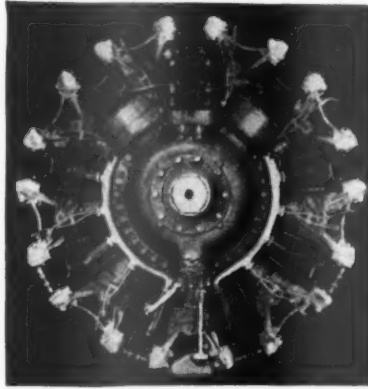


Data: Standard & Poor's Corp.

COPPER...GETS ITS WINGS

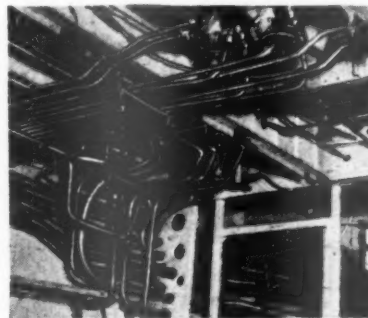
Plane Facts

The importance of light metals to present day war planes is generally recognized. Of great importance but not so well known are the parts played by Copper Alloys.



AXIS NEMESIS
"2,000 winged horses."

The first planes to establish trans-oceanic records were powered by motors equipped with valve parts made of Avialite* Metal, an aluminum bronze alloy developed by The American Brass Company. Its advantages: Valve seats and guides of Avialite withstand the constant impact of the valves on high speed flights, resist pitting by carbon. Today a well known engine manufacturer employs Avialite for 85 different parts. The Pratt & Whitney 2,000 horsepower "Double Wasp" engine shown above uses Avialite for intake valve seat inserts.



CURTISS COMMANDO "ARTERIES"
Everdur hydraulic lines.

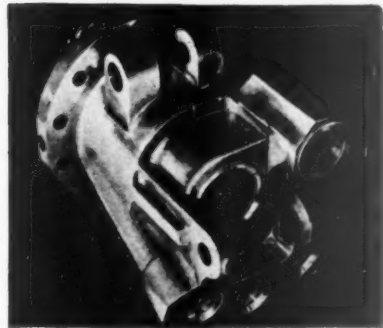
Aptly called the "arteries" of a plane are the lines carrying hydraulic fluid which operate landing gears, brakes, motor controls, ailerons, rudders, flaps, etc. These tube lines must be strong, corrosion-resistant and able to stand up under continuous vibration at high

pressure. Everdur* Metal, a copper-silicon alloy of The American Brass Company, has been found ideal for this exacting purpose and is used by many leading builders of aircraft.

Other Uses. Spark plug inserts, bushings, air speed tube components, oil cooler shells and tubes, and hundreds of other elements are made of copper, brass and bronze. The engine of a P-47 Thunderbolt has over 200 pounds of copper. There are 3,000 pounds of copper alloys in every Flying Fortress. Yes, copper, too, has earned its wings.

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One-piece mechanical marvel.

from an Anaconda "hot pressed" die forging. Parts almost unlimited in design made by this process are strong, tough, and close-grained. Available in wrought copper, brass and bronze, they save many hours of highly skilled machinists' time, releasing vital equipment for other important war work.

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a \$3,225,000 gain in Goodyear earnings sent its taxes up \$30,959,000.

Other Contrasts—In the automotive ap, General Motors was able to show in net equal to 58% of the expansion seen in its tax accrual, but Chrysler did report a similar ratio of but 23%. Even greater contrast is shown in the electrical equipment field. There, General Electric could only report a gain in of but \$381,000 vs. an increase of \$500,000 in tax accruals; whereas, Westinghouse added \$2,748,000 to net the cost of a somewhat smaller expansion in the sum laid aside for taxes. The cost Bethlehem Steel \$12,210,000 in tax accruals to earn an additional \$631,000, and net of International Business Machines was up only \$290,000 though tax accruals rose \$5,216,000. National Dairy proved even more vulnerable since its net rose but \$589,000 its tax bill advanced \$11,500,000. Machinery gave the tax gatherers a field day: Its net was up only \$1,000, but tax accruals showed a \$2,500,000 expansion.

Plenty of Uncertainties—Business has been basing its 1943 tax accruals on 1942 rates since it is generally believed that the latter will prevail this year. However, this is not altogether certain, and other potentially unfavorable earnings factors include the possibility of a further rise in operating costs plus, of course, re-negotiation proceedings. Some concerns are now witnessing some cancellations of contracts or requests for slower deliveries.

The Dept. of Commerce reports that dividends in the first half of 1943 were 1% under 1942 and 24% below 1941. A Stock Exchange survey of dividends of listed companies shows payments increased by only 111 corporations in the first half of 1943, reduced or omitted by 141, and continued at the 1942 rate by 361.

SOLDIERS PAY UP

When the Soldiers' & Sailors' Relief Act was passed some time ago, there were a number of mortgage holders who had certain misgivings concerning its possible effect on their investments. According to a nation-wide survey among 10 members of the Mortgage Bankers Association of America, these fears have not proved justifiable so far. Only 200 of the institutions contacted, it is said, reported any defaults in this connection. Actual defaults, moreover, had numbered only 858, and no difficulty appears to have been encountered in adjusting payments involved.

One reason, probably, for the show-up is that the bulk of the nation's homeowners are married men with children and that the draft boards, as yet, have not had to dig deeply into their ranks. The greater employment of wives in war jobs may be a factor, too.

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Rates under Fire

FCC starts a new drive for reduction in long-distance charges, and local authorities are likely to follow suit.

A pincers movement on telephone rates, both long distance and local, is under way. From early 1939 to the end of 1942, the American Telephone & Telegraph Co. watched its long-distance tolls rise about 150%. Then in November, 1942, the Federal Communications Commission started hearings on long distance rates over which it has exclusive jurisdiction. Thereupon A.T. & T. President Walter S. Gifford announced an agreement to cut long-distance overtime charges and also to give local companies a larger share of the intake from interstate service.

● **Estimated Slashes—Reductions** in long-distance overtime were intended to slash revenues of the long lines department \$50,700,000, of which \$34,700,000 was to have consisted of reduced charges to the public, the other \$16,000,000 representing increased revenues for local companies (estimates based on 1942 fourth-quarter revenues).

But so many people are using long-distance wires that in the three months ended May 31, 1943, long line revenues dropped only \$4,000,000. FCC feels that this is insufficient.

● **Drive on Local Rates**—In opening attack, FCC Chairman James Lawrence Fly wrote Gifford a few weeks ago that revenues are still too high. In the meantime, local utility commissions are closing in with an eye to cutting the local rates of companies under their jurisdiction.

Despite the current rise in Bell volume to successive monthly highs, profits show little change from last year. In the second quarter, net earnings were \$2.35 for the three months ended May 31 as compared with \$2.18 a year ago according to the consolidated statement.

● **Higher Costs a Factor**—With A.T. & T. already in the excess profits tax brackets the net effect on its income of any additional cut in long-distance rates (which would furnish some 30% of gross) probably would not be so damaging now. However, that wouldn't be the story always. A.T. & T. can truthfully point to the permanence of much of the higher costs. These increased expenses bite deep once war stimulation of traffic ceases.

For months now, despite record breaking revenues, earnings have failed by increasing margins to cover even the long established \$9 dividend rate on Motorola's stock. Even without another reduction in its tolls, therefore, it is problematical how long A.T. & T. can continue to pay the \$9.

Postwar Planning Czar?

A recent newspaper dispatch from Washington explains that the trouble with the government's postwar planning is that almost a dozen branches of the government would have to participate, without any agency or individual to coordinate their thinking. The National Resources Planning Board, so the story goes, was supposed to perform this function; but now it has been abolished by Congress. So, in order to insure and coordinate such planning, the President is understood to contemplate the naming of a single head.

Thus we are to have another Coordinator, a Government-Postwar-Thinking-man, to perform a function that Congress took pains to abolish. For the NRPB was not abolished because of its reports on the country's natural resources, and on research and technological progress. Neither was it abolished because of its constructive compilation of data on public works, or the aid it gave to state-wide public works planning. The NRPB was abolished chiefly because it had assumed to perform a function never intended for it by Congress: to plan America's economic future from the top down.

In so planning, the NRPB was required to divulge its ideas on social and economic matters; it had to give reasons for the changes it proposed and present an outline of the life it foresaw for the America of the future. To do that, it had to go out on a limb. Congress did not like the prospective fruit of that limb. It chopped it off.

While denying funds to NRPB, Congress, however, appropriated liberal sums to many government departments and agencies which it knew were doing postwar thinking and planning. So it wasn't that Congress was against postwar planning as such. It was merely against a certain kind of superplanning.

The State Dept.'s present job, for instance, is practically all postwar planning. Some of it, like the United Nations food conference, relief and rehabilitation efforts, and inter-American cooperation, are matters of public knowledge. Much, concerned with the future of Europe, for instance, is part of our biggest postwar planning job—the winning of military victory itself—and as such it must be kept secret.

The Dept. of Agriculture is preparing plans for the use of agricultural products; it is estimating agriculture's position at the end of the war with respect to acreages of various crops, size of stock-raising, machinery, fertilizer, and farm sup-

plies; it is outlining desirable objectives for various areas and studying agriculture's relations to industry. All that is of help to postwar planning.

The Dept. of Commerce is studying trends of business and industry and is preparing specific, practical plans to help business solve its problems. Its recent "Markets After the War" is an example of such work. One division studies the worries of the small business man; another the prospects of foreign trade. The Civil Aeronautics Board is interested in the problems of postwar domestic and foreign aviation.

The Federal Security Agency, the War Dept., the Dept. of Labor, all of them are concerned with the demobilization of our soldiers and war workers, their retraining, and resettlement. The Interior Dept., through the Bureau of Mines, the Bureau of Reclamation, the Indian Service, and the National Park Service, is making its plans to meet postwar conditions.

And so are the Treasury, the Federal Reserve Board, the Maritime Commission, and a dozen other established government departments and agencies.

Not one of them has the power, or considers it its function, to make an over-all blueprint for postwar America. On the contrary, each functions as a special servant for the specific branch of our economy for which Congress established it by law. That is, the Dept. of Agriculture is there to help the farmer meet his postwar problem; the Dept. of Commerce is there for the business man; and the Dept. of Labor for the workingman.

That's all Congress ever intended. Thus far it has always reserved to itself the power and function of drafting the over-all blueprint—coordinating, as it were, these various efforts. It has insisted on this, believing that this is a function which must be reserved to the people themselves; that it cannot be delegated to the executive order without endangering our political and economic freedom. That's why the NRPB had to go.

If the proposed new postwar coordinator merely tries to reduce duplication among the various specialized agencies, if he serves as a clearing house for the exchange of information between them, well and good. That would be a constructive service. But if he is inclined by mandate or temperament to assume the discredited functions of the NRPB, we shall have just another case of doing by one-man executive direction what Congress had specifically sought to prevent.

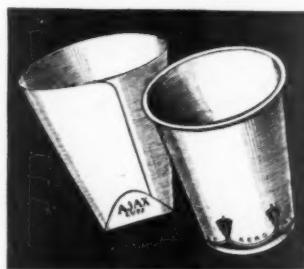
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THE TREND

TREATING THE MANPOWER MALADY

Under conditions of war, all economies suffer the internal malady of manpower shortage. What is new today about our own ailment is the stage to which we have advanced—the stage of actual interference with war production. The diagnosis and the remedial prescription remain unchanged (BW—Sep. 19'42, p100; Dec. 19'42, p104; Mar. 20'43, p116). But because these have gone in part unrecognized, the illness is worse than need be.

• **Manpower supply and demand** have passed through several overlapping phases. First we drew on unemployed and part-unemployed. Then we began enlisting the millions of nonworkers—housewives, older people, and youngsters; but experience proved that the expansibility of the labor force is limited. With demand still outstripping supply, we began to transfer workers from less essential to more essential industries.

These transfers are becoming increasingly difficult—a circumstance that still isn't fully appreciated. Surplus labor has been drained away from those few industries that were overstaffed. As more and more essential civilian lines have suffered manpower losses, their operation has been impaired, and the mounting strain on civilian living has in turn limited the recruitment of new workers and impaired the efficiency of existing ones. Witness absenteeism and the withdrawal of women from jobs.

• **Labor shortages** cut an ever wide swath. According to Paul V. McNutt, the urban areas now suffering from acute shortages or due to face them in six months total 166, embracing 52,000,000 people, the bulk of the urban population. Operations have already been affected in aircraft, copper, lumber, agriculture, textiles, canning, laundries. They are threatened in steel, coal, railroads, shipbuilding, slaughtering. And some still contend that manpower is not a general problem, but merely one at the particular-industry or specific-local-area level!

Top circles in Washington never fully understood the nature of the disease, its danger, or its remedy. Sufficient commentary on our manpower treatment is the fact that the patient's condition is at its lowest ebb. Now the consulting specialists are forming into two schools. One insists the crisis is past. The other claims it has a cure-all.

The perennial pollyannas point to McNutt's own manpower statistics which show that minimum transfers from less essential lines to war industry and the armed forces will total 2,100,000 in the last six months of 1943, but only 500,000 in the first half of 1944.

Actually, the worst is yet to come because the shortage is now so extensive. With the workings of the economy tightly meshed, lack of labor at any one skill, industry, or location builds up losses through the productive process. As a simple example, plane production can be hindered by a lack of workers in aluminum, or in extrusions, or in assembly—or even in laundries.

What's more, the "easy" outlook for 1944 is based on questionable assumptions: (1) that 1943 transfers will be completed and not hang over into 1944; (2) that productivity will rise; (3) that many new workers can still be found; (4) that 1944 casualties will be negligible. Because of accumulated industrial strain, deteriorated living conditions, and the enormously expanded role of marginal workers already, 1943 needs will not all be met, efficiency will suffer, few nonworkers will be recruited, and some present ones will actually leave the labor force.

Meanwhile, all industries are in the market for labor—if not to improve current operations, then as a hedge against future losses. Thus far transfers have been most guided by wage differentials. This device is now inefficient: Since last year it has worked to expand employment in perfumes, but reduce it at copper mines, increase it at hotels but contract it in laundries, lift it in millinery but shrink it in work shirts. Even in essential lines, wage spreads produce surpluses at some points, shortages at others.

• **Those who call for a national service act** recognize that the manpower disease is worsening. But it is a delusion to regard national service as a cure-all; compulsory control over the individual worker is only one of the therapeutic devices needed to treat manpower shortages.

To mobilize reserves to the utmost; to allocate manpower among the armed forces, war production, and the civilian economy for maximum war effort; to transfer workers efficiently with regard to industry, skill, and location, a sensitive technical machinery is required—one with powers to affect wages, procurement, and production.

Easy optimism about the efficacy of national service presents two dangers. One is that we shall overestimate what the patient can stand, and so make improper allocations to the military which would only aggravate the condition. The other danger is that we shall shirk the task of comprehensive, and painstaking treatment which alone can heal.

Right now, to deal with the all-important task of transferring workers, we require stricter analogues of such British measures as compulsory centralized hiring, restrictions on leaving essential jobs, and enforced reduction of nonessential employment; most important, we need technical personnel, not well-meaning "neighbors," to administer these measures.

• **A national service act**, in a form different from the Austin-Wadsworth bill before Congress, could serve to mobilize public sentiment for potent and competent manpower treatment. But to regard it as a cure-all is to inhibit all effective therapy for the manpower malady.

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